

The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1665.—VOL. XXXVII.

LONDON, SATURDAY, JULY 20, 1867.

{ STAMPED ... SIXPENCE.
{ UNSTAMPED ... FIVEPENCE

R. JAMES CROFTS, STOCK AND SHAREBROKER,
No. 1, PINCH LANE, CORNHILL.

Persons of mining shares difficult of sale in the open market may find purchase for the same through Mr. CROFTS' agency. Also parties requiring advice to act in the disposal or abandonment of doubtful mining stocks may rely on Mr. CROFTS' long experience on the market in all cases of difficulty, legal or otherwise.

WILLIAM LANE, 44, THREADNEEDLE STREET,
LONDON, E.C., STOCK AND SHARE DEALER (Established Thirty Years).
has FOR SALE the following SHARES:—
Don Pedro, 20s. 6d. 35 Frank Mills, 20s. 9d. 25 North Crofty, £23½.
Don Pedro, 20s. 6d. 100 Frontino Gold, 20s. 6d. 50 New Quebrada, 20s. 6d.
Don Pedro, 20s. 6d. 100 Gt. Wh. Vor, £217½. 75 Pestarena, £218s.
Don Pedro, 20s. 6d. 25 Gt. No. Downs, £23½. 100 Prince of Wales, 50s. 9d.
Don Pedro, 20s. 6d. 15 Gt. No. Laxey, 14s. 50 Redmoor, 4s. 6d.
Don Pedro, 20s. 6d. 20 Great Laxey, £17½. 50 Rossa Grande, 9s. 6d.
Don Pedro, 20s. 6d. 5 Herodfoot, £24½. 15 Trosavean, 11s. 6d.
Don Pedro, 20s. 6d. 20 Marke Valley, £416 3 50 Wheal Grenville, 20s.
Don Pedro, 20s. 6d. 50 Mineral Rights, 9s.

IDE TO INVESTORS.—MR. LELAND'S STOCK, SHARE,
AND FINANCE REGISTER for July, contains the twelfth of a series of close on investments, comprising the average dividends and rate of interest on the market price of shares in every description of company, as well Colonial and Foreign Stocks; and such information as is necessary to intending investors. 6d. per copy, or 5s. annually, post free.

R. WILLIAM MARLBOROUGH, 1, GREAT ST. HELEN'S,
BISHOPSGATE STREET, LONDON, E.C. (Established 13 years), has
FOR SALE the following SHARES, at net prices:—
Don Pedro, 20s. 6d. 35 Frank Mills, 20s. 9d. 25 North Crofty, £23½.
Don Pedro, 20s. 6d. 100 Frontino Gold, 20s. 6d. 50 New Quebrada, 20s. 6d.
Don Pedro, 20s. 6d. 100 Gt. Wh. Vor, £217½. 75 Pestarena, £218s.
Don Pedro, 20s. 6d. 25 Gt. No. Downs, £23½. 100 Prince of Wales, 50s. 9d.
Don Pedro, 20s. 6d. 15 Gt. No. Laxey, 14s. 50 Redmoor, 4s. 6d.
Don Pedro, 20s. 6d. 20 Great Laxey, £17½. 50 Rossa Grande, 9s. 6d.
Don Pedro, 20s. 6d. 5 Herodfoot, £24½. 15 Trosavean, 11s. 6d.
Don Pedro, 20s. 6d. 20 Marke Valley, £416 3 50 Wheal Grenville, 20s.
Don Pedro, 20s. 6d. 50 Mineral Rights, 9s.

R. JOHN BATTERS, STOCK AND MINING
SHAREBROKER, 13, THROGMORTON STREET, LONDON, E.C.

R. WILLIAM SEWARD, STOCK AND SHAREDEALER,
19, THROGMORTON STREET, LONDON, E.C.

ESSRS. WARD AND JACKMAN,
STOCK AND SHAREDEALERS,
CUSHION COURT, OLD BROAD STREET, CITY, E.C.

BUYERS. SELLERS.
Don Pedro, 20s. 6d. 35 Frank Mills, 20s. 9d. 25 North Crofty, £23½.
Don Pedro, 20s. 6d. 100 Frontino Gold, 20s. 6d. 50 New Quebrada, 20s. 6d.
Don Pedro, 20s. 6d. 100 Gt. Wh. Vor, £217½. 75 Pestarena, £218s.
Don Pedro, 20s. 6d. 25 Gt. No. Downs, £23½. 100 Prince of Wales, 50s. 9d.
Don Pedro, 20s. 6d. 15 Gt. No. Laxey, 14s. 50 Redmoor, 4s. 6d.
Don Pedro, 20s. 6d. 20 Great Laxey, £17½. 50 Rossa Grande, 9s. 6d.
Don Pedro, 20s. 6d. 5 Herodfoot, £24½. 15 Trosavean, 11s. 6d.
Don Pedro, 20s. 6d. 20 Marke Valley, £416 3 50 Wheal Grenville, 20s.
Don Pedro, 20s. 6d. 50 Mineral Rights, 9s.

R. THOMAS THOMPSON, MINING OFFICES,
12, OLD JEWRY CHAMBERS, LONDON, E.C.

ESSRS. WILSON, WARD, AND CO., STOCK AND
SHAREDEALERS,
16, UNION COURT, OLD BROAD STREET, LONDON, E.C.

ESSRS. MCNEILL AND LONG, STOCK, SHARE, AND
MINING DEALERS,
31, THREADNEEDLE STREET, LONDON, E.C.

R. JAMES HUME, 74, OLD BROAD STREET,
MEMBER OF THE MINING EXCHANGE, LONDON.
has FOR SALE the following SHARES, at net prices:—
Don Pedro, 20s. 6d. 35 Frank Mills, 20s. 9d. 25 North Crofty, £23½.
Don Pedro, 20s. 6d. 100 Frontino Gold, 20s. 6d. 50 New Quebrada, 20s. 6d.
Don Pedro, 20s. 6d. 100 Gt. Wh. Vor, £217½. 75 Pestarena, £218s.
Don Pedro, 20s. 6d. 25 Gt. No. Downs, £23½. 100 Prince of Wales, 50s. 9d.
Don Pedro, 20s. 6d. 15 Gt. No. Laxey, 14s. 50 Redmoor, 4s. 6d.
Don Pedro, 20s. 6d. 20 Great Laxey, £17½. 50 Rossa Grande, 9s. 6d.
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Don Pedro, 20s. 6d. 20 Marke Valley, £416 3 50 Wheal Grenville, 20s.
Don Pedro, 20s. 6d. 50 Mineral Rights, 9s.

R. WILLIAM MICHELL, STOCK AND SHAREDEALER,
has FOR SALE—200 Prince of Wales, 200 East Caradon, 5 Carn Bre-
ford, and 2 Wheal Seton, for cash; and 200 Chontales for time.
ESTABLISHED—“X. Y. Z.”—Their last excuse was that they were waiting for
a dry season, the dry weather having retarded their reducing operations.
They hope they have had a wet St. Swiflin's Day. The price is preposterous.
A quarter of a million sterling, and no remittance.
PURCHASE COMPANY—“L.”—I am sick and tired of advertising
shares, having failed to get a bid for them. I hear the Barytes Mine is a
being able to dispose of the produce.—2. It is only another way of
sling on the public.
PRICE OF WALSLEY—“A. B. C.”—I must refer you to my report in this week's
Journal. The sale of ore is about £200 less. The quality of the next sampling,
probability, will further recede, if not the quantity. Surely, no one can
say that this is a retrogression.

R. G. D. SANDY, STOCK AND SHAREDEALER,
No. 4, THREADNEEDLE STREET, LONDON, E.C., TRANSACTS
BUSINESS IN EVERY DESCRIPTION OF STOCK EXCHANGE SECURITIES
AND FINANCIAL ENTERPRISES, at close market prices.
Correct Daily Price List may be had on application.
Money advanced to any amount on legitimate stocks and shares.
References exchanged.

R. GEORGE BUDGE, STOCK AND SHAREDEALER,
No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C. (Established
70 years). FOR SALE at net prices:—50 Don Pedro; 25 Pestarena, £23½; 20
sides, £44½; 50 Yudanamatana, 20s.; 100 Port Phillip; 70 Anglo-Brazilian,
100 Frontino and Bolivia; 80 Rossa Grande; 1 Devon Great Consols, £429;
Chiverton, £27½; 20 Rose and Chiverton United; 5 Great Laxey, £17½;
est St. Ives, 8s.; 10 West Basset, 20s.; 20 Prince of Wales; 26 Great North
Crofty, 20s. 6d.; 50 Drake Walls, 8s. 6d.; 50 Crebore, 8s.; 50 Penden, 17s. 6d.;
est Tor; 20 Frank Mills, 21s.; 50 Bottle Hill, 4s.; 50 Redmoor, 2s. 6d.; 40
Swig, 20s. 6d.; 40 Great South Toigus, 7s. 6d.; 60 West Kitty, 16s.; 100
Park, 10s. 6d.; 40 Cuddra, 18s. 6d.; 30 Orelake; 20 No. Retallack, £414s.;
est Grenville; 20 Gawton, £3; 75 East Rosewarne, 7s.

CHONTALES GOLD AND SILVER COMPANY.—In
PETER WATSON'S “WEEKLY MINING CIRCULAR,” No. 433, of yester-
day (Friday, July 19), will be found IMPORTANT INFORMATION respect-
ing the future of this company.
A Circular sent on application. Price 6d. each copy.
79, Old Broad-street, London, E.C.

PETER WATSON'S “WEEKLY MINING CIRCULAR AND
SHARE LIST—SYNOPSIS OF CORNISH AND DEVON MINES,” of
Friday, July 19, No. 433, Vol. IX., price 6d. each copy, forwarded on applica-
tion, contains information on the following mines:—
West Great Work. North Wheal Crofty. Frontino and Bolivia.
Wheal Chiverton. North Wheal Chiverton. Don Pedro.
West Chiverton. East Wheal Lovell. United Mexican.
West Caradon. Drake Walls. Mineral Rights Associa-
West Drake Walls. Chontales. tion.
A List of Dividend and Progressive Tin Mines for Investment.
PETER WATSON, Stock and Sharedealer, 79, Old Broad-street, London, E.C.

STOCK AND SHAREDEALER.—MR. PETER WATSON,
ENGLISH AND FOREIGN STOCK, SHARE, AND MINING OFFICES, 79,
OLD BROAD STREET, LONDON, E.C.
Railway, Joint-Stock Banks, Dock, Insurance, Canal, Mining, Steam-ship, &c.,
and every other description of shares bought and sold at net prices.
TELEGRAPHIC MESSAGES TO BUY OR SELL Railway, Bank, Mine, and
other shares and stocks, punctually attended to, at net prices for cash, or for
fortnightly settlements, with advice as to purchases or sales.

Twenty-two years' experience.
(Two in Cornwall and Twenty in London.)
Bankers: The Alliance Bank, and the Union Bank of London.

From the close proximity of his offices to the Stock Exchange, as well as the
Mining Exchange, PETER WATSON is enabled to act with promptitude on all
orders entrusted to him, which at all times are carried out with punctuality,
and to the best advantage of his clients.

MR. EDWARD COOKE, STOCK AND SHAREDEALER,
76, OLD BROAD STREET, LONDON, E.C.
Deals in Chontales, Don Pedro North del Rey, Rossa Grande, Anglo-Brazilian,
Frontino, Prince of Wales, Chiverton Moor, North Wheal Chiverton, West
Wheal Kitty, and North Crofty, at close market prices net.
Orders for all kinds of Stock Exchange securities, either by letter or telegraph,
promptly attended to.

P.S.—An allotment of shares in the Taquaril Gold Mining Company can be
secured through EDWARD COOKE by an early application.
MINING RIGHTS.—Mr. COOKE will BUY any number of shares at a fair
market price.

Satisfactory references given in any town in the United Kingdom.
Bankers: Alliance Bank.

M. R. W. H. C. U. E. L. L.
(late of the firm of WATSON AND CUELL),
STOCK AND SHAREDEALER,
1, FINCH LANE, CORNHILL.
BUSINESS in Chontales, Marke Valley, East Lovell, Great Retallack, North
Retallack, Great North Downs, West Basset, Buller, Grenville, East Grenville,
Prince of Wales, and West Prince of Wales.
Bankers: Bank of England.

MESSRS. POWELL AND MOSE, SHAREDEALERS
78, OLD BROAD STREET, LONDON, E.C.
Members of the Mining Exchange.
Bankers: Bank of England.

BARTLETT AND CHAPMAN, STOCK AND
SHAREDEALERS, 2, BUCKLESBURY, LONDON, E.C.
SPECIAL BUSINESS, as BUYERS or SELLERS, at close net prices, in the
following shares:—

West Chiverton. Lovell Consols. Chontales.
Great South Chiverton. North Grenville. South Trekerby.
Chiverton. Great Laxey. East Lovell.
Chiverton Moor. Nangles. Prince of Wales.
The INVESTMENT CIRCULAR AND FINANCIAL RECORD for JULY con-
tains valuable information as to the best investments of the day, which will be
forwarded post free on application.
Cheques sent by post should be crossed London and Westminster Bank.

MATTHEW GREENE, STOCK AND SHARE DEALER,
ST. MICHAEL'S HOUSE, CORNHILL, LONDON, E.C.
MATTHEW GREENE recommends the purchase of Rossa Grande, New Clifford,
and Clifford Amalgamated.
MATTHEW GREENE has a large quantity of SULPHATE OF BARYTES
FOR SALE, at a cheap rate.
Bankers: Ransom and Co., London.

GEORGE RICE, STOCK AND SHAREDEALER, 78, OLD
BROAD STREET, LONDON, E.C. (Member of the Mining Exchange),
(25 years' experience), TRANSACTS BUSINESS in MINING SHARES, at
close prices.
SPECIAL BUSINESS in Chiverton Moor, East Lovell, Great Vor, North Crofty
West Chiverton, and Prince of Wales.
Money advanced on mining shares.
Bankers: Bank of England.

MR. T. ROSEWARNE, 81, OLD BROAD STREET,
has BUSINESS in the following shares for cash or time on:—
Clifford. Gawton. Pestarena.
Chiverton Moor. Great Retallack. South Frances.
Chontales. Great Vor. South Grenville.
Devon Consols. Marke Valley. South Caradon.
Don Pedro. North Crofty. West Chiverton.
East Russell. North Retallack. Wheal Seton.
Frontino. Prince of Wales. West Prince of Wales.
T. ROSEWARNE is on his tour of inspection in Devon and Cornwall, and on his
return will be most happy to furnish his friends with all particulars relating
to the following mines:—Setons, Chivertons, Retallacks, Prince of Wales, Clifford,
Grenvilles, East Russell, Gawton, Okei Tor, and most of the leading mines of
the two counties. All communications for the ensuing week should be addressed
to the office, when they will be forwarded and promptly replied to. I am
inclined to think now is the time to BUY in many mines, as the price is low, and
a great rise must shortly follow.
Money advanced on good mining shares. Office hours from 10 to 4.
Bankers: Bank of England.

JAMES SCOTT AND CO., STOCK AND SHAREDEALERS,
1, PINNER'S COURT, OLD BROAD STREET, LONDON, E.C.
All Stock Exchange securities dealt in at close market prices for cash or the
bi-monthly settlement. References given.
JAMES SCOTT and Co. have large dealings in East and West Caradon, East
Lovell, North Crofty, Prosper United, Prince of Wales, Anglo-Brazilian, Don
Pedro North del Rey, Pestarena, Chontales, and Frontino and Bolivia shares.
N.B.—JAMES SCOTT and Co. are the proprietors of the “British and Foreign
Mining Circular.”

JOHN RISLEY, STOCK AND SHAREBROKER
(SWORN BROKER),
48, THREADNEEDLE STREET, LONDON, E.C.
Bankers: London and Westminster, Lothbury.

WALTER TREGELLAS, 122, BISHOPSGATE STREET,
WITHIN, E.C., DEALS in ALL DIVIDEND and sound PROGRES-
SIVE MINE SHARES, either for cash or the fortnightly settlement at close
market prices.
Has BUSINESS in St. John del Rey, Don Pedro, Anglo-Brazilian, Frontino,
Rossa Grande, Chontales.
WALTER TREGELLAS can confidently recommend the Taquaril Gold Mine.
Full and reliable information on application.
Bankers: Alliance Bank.

INVESTMENT, LOAN, AND BANK AGENCY
Established 1839.
BANKERS—London and County Bank.
CAPITALISTS will find this Agency a safe medium for the investment of money
in First-class Securities to the best advantage.
Purchases and Sales of every description of Public Securities can be effected,
either for immediate or deferred settlement, as may be agreed upon.
Loans granted upon liberal terms, for one year or any shorter period, on Stocks
and Shares having a market value.
Five per cent. interest allowed upon Deposits of all amounts.
The Agency of Public Companies, and Bank and Money Agency Business gene-
rally undertaken.
RICHARD TAYLOR AND COMPANY.
No. 12, Clement's-lane, Lombard-street, London, E.C.

M. R. CHARLES THOMAS,
MINING AGENT, GENERAL SHAREDEALER, AND AUCTIONEER,
3, GREAT ST. HELEN'S, LONDON, E.C.

MESSRS. LANE AND GIBBS, 2, ROYAL EXCHANGE,
LONDON, E.C. (Members of the Mining Exchange), STOCK AND
SHAREDEALERS, AND FINANCIAL AGENTS, transact business in all kinds
of securities at closest net prices for cash or account.
Parties of respectability can have transfers registered in their names previous
to payment.
Daily price list on application.
Bankers: London and County Bank.

TWO FIRST-CLASS INVESTMENTS, WELL WORTH ATTENTION,
AND PERFECTLY SAFE.
NANGLES (TIN AND COPPER) MINE,
KEA, CORNWALL.

In 1924 shares, £28 paid. Price, £12 to £15 per share.
This will prove one of the richest and best paying mines in Cornwall.
Intending investors should buy a few shares. They will eventually go to £100
each.

N.B.—The copper, tin, and mudiic sold in May realised £760 16s. 1d. They
sold 50 tons of copper again on the 4th inst., which realised £236 4s.
This valuable property is in the richest district in Cornwall, and is known
to be immensely rich for copper. A short time and a small further outlay
being only required to bring it into a lasting dividend position. The mine is in
a splendid situation. It adjoins and embraces all the rich and profitable lodes
of Clifford Amalgamated Mines, which have paid £1,100,000 in dividends. Clifford
Amalgamated formerly represented three distinct mines—namely, United
Mine, Consolidated, and Wheal Clifford. Shares in the first-named were saleable
some years since at £200, in the second at £300, and in the third at £350 per
share. Nangles, embracing the same rich lodes, cannot fail to become a great
and lasting dividend-paying concern; it is progressing towards a paying state.
Let them but cut a rich copper lode in the 130 fm. level, and shares would jump
up to £50 in a few months, and the mine soon enter the Dividend List.

EAST CHIVERTON (LEAD) MINE,
PERRANZABULO, CORNWALL.

In 4000 shares, £2 14s. 3d. paid. Price £1 10s. per share.
Shares should be bought at once. There is every prospect of their going to
£10 each within a year. The lode lately met with 12 fms. from surface was
very promising, producing 35 ozs. of silver per ton of ore, and 79 per cent. for
lead. They will cut the lode 25 fms. from surface in a few weeks.
This valuable and promising mine is situated in the richest lead district in
Cornwall, and holds out splendid prospects; it is due east of West Chiverton,
therefore embraces the lodes of that splendid mine, one of which lodes was lately
cut, containing rich silver-lead ore. West Chiverton has paid £58,125 in divi-
dends since October, 1863. Shares were £10 in 1863, and now £68. They pay £5
per share yearly in dividends. Chiverton shares are £7 each. Chiverton Moor
are £5 10s. each, whilst East Chiverton are selling at £1 10s. per share, not one-
third their real value. There is no reason why shares should not go to £30 each,
and pay large dividends. These four mines all embrace the same lodes.
LIABILITY OF SHAREHOLDERS.—General meetings are held quarterly, when
a small call of 2s. to 2s. 6d. per share is made. Shareholders can sell out at any
time, when their liability immediately ceases. The next call will be in October.

Every information given to capitalists, shareholders, and intending investors,
personally or by letter, upon application to the undersigned,
GRANVILLE SHARP, STOCK & SHAREDEALER, 32, POULTRY, LONDON.

MR. J. B. REYNOLDS, STOCK AND SHARE DEALER,
70 and 71, BISHOPSGATE STREET, WITHIN, is PREPARED to
DEAL in the following shares:—

West Chiverton. Wheal Agar. West St. Ives.
East Rosewarne. Chiverton Moor. West Wheal Seton.
Wheal Seton. Chontales. South Callington.
Rose and Chiverton. North Crofty. West Prince of Wales.
West Wheal Kitty. Prince of Wales. Great South Chiverton.
MR. REYNOLDS refers with pleasure to the Rose and Chiverton and West
Kitty reports in this day's Journal, as also to his letter on p. 477.
Established Ten Years. Member of the Mining Exchange.
Bankers: City Bank.

WEST ST. IVES.—MR. J. B. REYNOLDS is a BUYER of any
number of shares in this mine, as well as a SELLER. Communications
will receive prompt attention.
70 and 71, Bishopsgate-street Within, London, E.C., July 19, 1867.

ROSE AND CHIVERTON UNITED.—MR. J. B. REYNOLDS
draws attention to this as being one of the finest investments of the day.
Reports of Capt. Hancock of Fowey, Champion, and the opinions of
other first-class authorities may be had on application, together with a plan of
the property and district.
70 and 71, Bishopsgate-street Within, London, July 19, 1867.

MR. J. B. REYNOLDS' CIRCULAR for JUNE and JULY is
NOW READY, containing valuable information respecting Railways,
Banks, Mines, Insurance and Miscellaneous Companies, and will be forwarded
gratis on application to Mr. J. B. REYNOLDS, 70 and 71, Bishopsgate-street,
London, E.C.

MR. R. EMERSON, 28, GREAT WINCHESTER STREET,
LONDON, E.C., has the following SHARES FOR SALE:—15 Great South
Toigus; 50 Gwydyr Park, 2s. 6d.; 50 Wheal Kitty, 14s.; 15 Gothic, £23½;
75 Rossa Grande, 11s.; 50 West St. Ives; 40 Bottle Hill, 4s.; 10 Leeds and
Aubyn, £5; 20 New Crow Hill; 10 Rose and Chiverton United; 10 North Re-
tallack; 10 South Callington; and 20 Budnick Consols. These shares I strongly
recommend for a good rise in price.
Advice given on the sale and purchase of shares.
Eighteen years experience in Cornwall and Thirteen in London.

MR. J. J. REYNOLDS, JUN.,
8, WARFORD COURT, THROGMORTON STREET.
At no period was there such a chance of great profit in mining shares in
mines, prices of which have fallen from market and other influence. I have
selected several which must greatly advance in value. Advice on the outlay of
£5 to £5000 will be promptly given.

M. R. E. J. B. A. R. T. L. E. T,
MINING AGENT AND GENERAL SHAREDEALER,
30, GREAT ST. HELEN'S, LONDON, E.C.

MESSRS. J. TAYLOR AND CO., MINING AGENTS AND
SHAREDEALERS, 17, CROSS STREET, MANCHESTER, have FOR
SALE:—
50 Clyn Colliery. 40 East St. Just. 10 Bradda Head.
10 Clyn Colliery. 10 Cashwell. 30 Great Mona.
10 Prince of Wales.

MESSRS. FREDERIC GILL AND CO., STOCK AND
SHAREDEALERS, ST. CLEMENT'S HOUSE, CLEMENT'S LANE,
LONDON, E.C., TRANSACT BUSINESS in ALL MINING STOCKS AND
SHARES at closest market net prices, either for cash or account.
Messrs. F. GILL and Co. can recommend the purchase of shares in a mining
company which possesses a most valuable property, containing several good lodes
productive of copper ore and blends in large quantities. The late owner has
taken a large number of the shares; and many practical miners in the district,
who believe that a few months vigorous working will prove the mine a splendid
success, have also taken shares—Cheques to be crossed “City Bank.”

MR. LEDWARD, CHESTER, has FOR SALE a few SHARES
in the TRELOGAN and GLEN ALUN LEAD MINES, at a small
discount. An opportunity of acquiring shares in such valuable properties sell
dom occurs, except at very high premiums; the returns of ore (which have for
some time covered the cost) are increasing every month; and the mines are cer-
tain, ere long, to pay permanent dividends.

WANTED TO PURCHASE, SHARES in the following MINES:—
ROSEBORO.
MINERA.
BRYN GWIG.
WESTMINSTER.

MANCHESTER, AND WEST END OF LONDON.
MR. W. HANNAM, MINING, SLATE QUARRYING,
INSURANCE, AND GENERAL SHAREBROKER.
ROYAL INSURANCE BUILDINGS, KING STREET MANCHESTER; and
449, STRAND, LONDON, W.
INSTANTANEOUS COMMUNICATION with the STOCK and MINING
EXCHANGES, avoiding the delay and annoyance of visiting the City to ascer-
tain prices. A Monthly Investment Circular on application.

MR. THOMAS SPARGO, STOCK AND SHARE DEALER,
224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.
TRANSACTS EVERY DESCRIPTION OF BUSINESS IN THE PURCHASE AND SALE OF SHARES IN BANKS, CANALS, MINES, RAILWAYS, BRIDGES, INSURANCES, AND ALL OTHER BRITISH AND FOREIGN STOCK.

Mr. SPARGO has for sale shares in English mines paying regular dividends bi-monthly and quarterly, as also a number of shares in good progressive mines, some of which he with confidence specially recommends to the public as sound investments.

Mr. SPARGO gives every information as to position and prospects of all mining undertakings, upon application, either personally or by letter, and is enabled, through his long experience, aided by his monthly visits to Cornwall, Devon, and Wales, to obtain the most reliable information as to the numerous mines in those districts. He will at all times give the best advice as to investments in mines, and, if necessary, inspect them himself; as in all cases he wishes to be guided by the intrinsic value of the property, and, if required, will furnish a selected list of dividend and progressive companies.

Mr. SPARGO has published the following works, viz.:—
Statistics and Observations upon the Mines of Cornwall, 1859—2s. 6d.
Ditto ditto ditto ditto 1860, price 2s. 6d.
Ditto ditto ditto ditto 1862, price 5s.
Ditto ditto ditto ditto 1864, price 5s.
Ditto ditto ditto ditto 1865, price 5s.

Physical, Geological, and Parish Map of Cornwall. Scale, three miles to an inch. Printed in three colours, showing distinctly the mining districts, the height of the hills, &c., on cloth and rollers.
Geological Maps of the various mining districts, showing the boundary line of each mine, with the lodes, cross-courses, and elvan courses traversing the same. Price 2s. 6d. each.

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Original Correspondence.

THE MINERAL WEALTH OF NOVA SCOTIA.

SIR,—I propose, with your permission, furnishing an occasional article to the *Mining Journal* upon the gold mines and also upon the coal and other mineral deposits of this province. It seems highly desirable that some pains should be taken to make known in England the extent of the mineral wealth of Nova Scotia. Certainly if it were known, British capital would seek investment here, when it now does not. The opportunity for such investments, at handsome profits, in at least gold, coal, and iron mining are numerous; but I believe that the "General Mining Association," engaged in coal mining in four localities here, is the only English company that has a pound invested in Nova Scotian mines. The solitariness of this exception is, I feel assured, owing solely to the fact that so little is at present known in Great Britain relative to the mineral resources of Nova Scotia.

To begin with the royal metal, GOLD. I will briefly describe what has already appeared in your columns, although a good while since—namely, the auriferous district of Nova Scotia as a whole. This consists mainly of a Silurian band, extending along the whole Atlantic coast of the peninsula of Nova Scotia proper. This band is 50 miles, or more, in width at its western extremity, but gradually narrows to a point as it extends eastward. The quartzite and slate, of which it is mainly composed, are interrupted in several localities by dykes and mounds of granite. The auriferous quartz veins which intersect the band of Silurian rocks are very numerous; vary from the smallest discernible thickness up to 30 ft. in width, and run in an easterly and westerly direction. Northward of this Silurian district there are certain ridges of metamorphic rock of a more recent age. These ridges, which comprise the highest lands in the province, extend eastward and westward more than the whole length of the peninsula, for they overlap each other. They also make up a large portion of the island of Cape Breton. These hills are also auriferous, although, it would thus far appear, in a less degree than the older formations, above described. Whilst dealing with this part of the subject, I will take the liberty of making an extract from a paper which I had the honour to read before the "Nova Scotian Institute of Natural Science," in February, 1866, and which is published in the Transactions of the Institute of that year:—

"The extent of the two larger (auriferous) districts which I have indicated comprises, in the aggregate, a large proportion of the surface of Nova Scotia. I would roughly estimate the area of the Lower Silurian district at 7000 square miles, and of the several tracts of the more recent formation at 3000, in all 10,000 square miles. The whole area of the province of Nova Scotia amounts to about 18,600 square miles. It must not be assumed that this large area is throughout auriferous. I will observe parenthetically, that, judging from what is already known, there is every reason to believe that future explorations will prove the greater part of this area to be rich in metalliferous deposits of some kind.

In the Lower Silurian district there are found bands of quartzite, seemingly nearly parallel with each other, alternating with various slates, extending in a general easterly and westerly direction. In this quartzite and, in a less degree, in some of the slates we find numerous veins of quartz; and these veins—especially those of the quartzite—we find to be auriferous. Of the number of the quartzite bands, and the latitudinal extent of each, but little is known.

Longitudinally, this quartzite, with its auriferous quartz veins, can, except where interrupted by the granite dykes already mentioned, be traced the whole length of the Nova Scotian peninsula. Gold has been taken from quartz veins at Yarmouth, and on the shore of Chedabucto Bay, and I might add, at every intermediate point where diligent search has been made for it in the proper formation. The quantity of quartz embraced in this great length and breadth of quartzite vein-stone must be something enormous. I speak of it in comparison with the bulk of the enclosing rock. On one occasion I myself removed carefully the drift, so as to expose a cross section of the surface merely of the bed rock for a distance of about 160 ft. Within that distance I discovered over thirty quartz veins, ranging from 1 to 15 inches in thickness. The whole number of veins would average not less than 6 inches, or (say) 15 feet in all, thickness of quartz to 160 feet of enclosing rock, the dip being here nearly vertical. In another instance, after counting and measuring the quartz veins exposed within a distance of 250 feet, I estimated their aggregate thickness at 25 feet; and yet, as within a part of the distance of 250 feet there was no exposure of the bed rock, the actual thickness of this quartz may have been considerably greater than what I have stated. In both of these cases the quartz veins exposed, or the greater number of them, were known to be auriferous, from examination made at the several spots where laid bare. In other localities quartz veins of 5, 10, and even up to 30 feet in thickness are found. But I will not multiply instances. Those which I have specified do not, I think, exhibit a greater thickness of quartz in proportion to that of the enclosing rock than will be found generally throughout these quartzite bands. I, then, judge solely from what is shown in excavations already made, and in local districts of many miles apart. The surface of the gold-bearing rock of Nova Scotia is, for the most part, concealed by a thin covering of drift and vegetable matter; consequently, it is an incident of no infrequent occurrence for the unscientific miner, by some accident or lucky blunder, to stumble upon a quartz vein of extraordinary richness, the existence of which he never suspected, but which had lain almost within arm's length of where he and others have been toiling, perhaps with indifferent success, for months or years previously.

There is good reason to believe, then, that the quantity of quartz within easy reach of the miner in Nova Scotia is immense. The great economic question to be considered is, to what extent is it auriferous? It would be a sweeping and, perhaps, incredible statement to aver that all of these quartz veins bear gold; and yet, so far as one can venture to hold any opinion at all upon a subject on which it is so difficult, and dangerous to generalize, I rather incline to the belief that that they are more or less auriferous. Certainly the result of my own observations tends to that conclusion. I have seen and gathered some facts concerning a great number of these quartz veins that had been opened for the purpose of mining, or at least "prospecting." As to the results, individually, of these examinations, I must admit that I do not speak from notes taken on the several occasions; but, speaking from memory, I can recall no instance where I have seen a quartz lode fairly tested which did not prove to be auriferous. I have, indeed, seen a shaft sunk upon a previously untried lode to a depth of 60 feet without a "sight" being discovered; but then the quartz has become exceedingly rich. In some instances very rich quartz lodes have been temporarily abandoned as non-auriferous, because the miner has happened to commence operations upon a poor section of the outcrop of the vein. Many quartz veins worked in Nova Scotia have proved to be very rich in gold.

All that is very reservedly stated in the foregoing extracts, as to the number, extent, and richness of these quartz veins, has been more than confirmed by subsequent observation and experience. Auriferous quartz lodes, of apparently good paying quality, have been discovered at almost innumerable spots throughout the Silurian band already mentioned. These are only worked as yet in a few of the most easily accessible localities. I may as well add that many known and proved rich auriferous tracts are not worked at all, or worked only upon a small and, therefore, very disadvantageous scale. This statement, taken in connection with what I have said, and shall have to say hereafter, of the richness of these Nova Scotian quartz mines requires explanation. Such a thing as surplus capital in anybody's hands in this new country is scarcely known. As a rule, everybody engaged in business—and most persons are—can employ all the capital at their disposal, and even more, in their regular business. Consequently there are comparatively few who feel disposed to divert any considerable portion of their capital from the business which is paying well, and which they understand, to invest it in ventures concerning which they know but comparatively little. Gold mining in Nova Scotia has, thus far, been carried on almost exclusively by two classes of people. These are, first and mainly, the hard-fisted, stalwart sons of the soil—bold young men, of muscle and energy, but of small means, who have gone into gold mining as a regular business. Secondly, enterprising companies from the United States. Much success has been obtained by both classes. Among the former there are many who are, *per force*, speculators. They energetically make explorations for auriferous quartz; they eventually find good indications; they open and test their ground, and find their discovery, it may be, a highly valuable one. But here it often happens that their pecuniary means are nearly, or quite, exhausted; and they can only hold their gold claims for sale, or, if they endeavour to work them, must, from the paucity of their means, carry on mining operations at a great disadvantage. Thus it happens that many known and proved valuable gold-mining properties in Nova Scotia are in the market at moderate prices; and many such properties are said to be held unproductive in the hands of speculators, when they are almost necessarily so.

The richness of the Nova Scotian gold mines, and to some extent their progressive development, may be seen by the following facts:—During the past four years I have taken some pains to append to the Report which I have had the honour to submit to the Lieutenant-

* There is a range of Trappian hills, about 140 miles in length, along the shore of the Bay of Fundy, which is also to some extent auriferous.

* It may be observed that from having, in his official capacity as "Gold Commissioner," and "Chief Commissioner of Mines," had free access to, and having frequently visited, all the mines, of whatever description, in Nova Scotia during the past four years, the writer has had unequalled opportunities for observation and for collecting correct information relating to these mines.

Governor annually full statistics of all the gold mines of the province for the year, showing the average number of men employed, the number and description of quartz mills in operation, the quantity of auriferous material raised and crushed, its yield of gold per ton, the total yield of gold, the maximum yield, and the average yield per man engaged in mining. These statistics have been made up from returns furnished periodically, according to law, and sworn to by mining lessees and quartz-mill owners. The only point upon which the lessees would have an interest in making false returns would be in furnishing their statement of the total quantity of gold produced; but as they pay royalty to the Crown upon the quantity so returned, it is highly improbable that they would ever make that quantity appear more than it really should be. So long as we have not access to the private account books of mining proprietors, the most reliable and valuable evidence of the productiveness of a mine, or a mining country, is the amount of gold it yields per man engaged in mining. In 1863, which was the first year in which anything like complete statistical returns were procured in Nova Scotia, the average yield of gold per man for the year was \$296. In nine months of 1864—the termination of the provincial fiscal year having been changed, which accounts for the fraction of a year—it amounted to \$324.66. In 1865 it reached \$664.80. In 1866 it attained to \$669.41. This was the aggregate for the whole province. Of course, that of some single districts far exceeded this. For instance, in one district, in 1866, the product of gold was equal to \$1382.86 per man. In this, as in all the other instances, the average is spread over the whole number of men engaged, directly or indirectly, in mining and "prospecting" operations, and the treating of auriferous quartz. I must be particular to state this very important fact:—*The smallest of the above averages exceeds that of any other country in the world where quartz mining is now being carried on.* I have reason to believe, but cannot prove it with mathematical precision, that the average of profits are equally in favour of the Nova Scotian mines.

To go more into details relative to the gold mines of this province would necessitate the prolongation of this letter to, I fear, a tedious length; I shall, therefore, defer any further remarks upon the subject to a future communication.

Halifax, Nova Scotia, July, 3.

GOOD NEWS FOR TIN PRODUCERS.

SIR,—Your columns of last week contain two items of news which, while some may read and forget them, convey to thoughtful and practical minds matter of the utmost importance. Not an hour before reading "my Journal," I had been thinking what a salvation it would be for British tin mining if some new applications for that metal could only be discovered at this moment. I was much struck and pleased, therefore, by observing that you mention no less than two inventions to this effect. One for making a beautiful imitation of gold, in which tin plays a part; and another, and by far the more important, for constructing amalgamated tin and lead pipes and cisterns for the conveyance and holding of water. This invention commends itself forcibly to the minds of all. To the miner, as calculated to open a field for the use of tin on a very large scale, and thus increase the demand for it; and to the public, as offering a cheap and practicable remedy for the vast amount of suffering, disease, and death, which are too well known to exist, from the use of water conveyed in pipes and cisterns constructed of lead. There cannot be a doubt that life is thus shortened, and a great number of obstinate cases, which baffle medical skill, could be traced to this cause. Who, then, would have leaden pipes or cisterns in his house, if he can have them of lead lined with tin, and thus remove a deadly poison, without additional cost? In a sanitary point of view the good that might be effected is incalculable, and of such deep importance, that it is to be hoped that influential persons will come forward and press the matter on public bodies and on the Government. The amount of tin required, should this valuable invention be adopted, will be enormous, and many thousands of people spared an early death, or an existence of prolonged misery.

ANTI-POISON.

PUDDLING BY MACHINERY.

SIR,—I have had my attention directed to an invention recently patented by Mr. Dormoy, of Paris, for facilitating the puddling of iron, the chief novelty of which appears to be that the rabble, which are to be used in the ordinary way, are caused to rotate, and it is claimed that this causes the metal to be more forcibly agitated in all directions. The inventor remarks that the ends of the tools which enter the metal may be of any desirable form, and are arranged so as to agitate the metal as much as possible. There is also a central tool, which is to pass through the top of the furnace, and this being rotated also at any angle, likewise assists the agitation of the metal. As soon as the metal begins to fuse the tools may be rotated, we are told, at a high speed, provided it be not so high as to throw out the metal. Mr. Dormoy says that, if possible, the mechanical movement should be obtained in such a manner that a speed can be imparted to the tools of 1000 revolutions per minute; these tools penetrating into the metal like a drill, divide and agitate it very violently, at the same time sensibly warming it by the rapid friction which takes place between the particles of molten metal and the ends of the tools, which turn and are moved in all directions in the midst of the metal. When the metal is coming to nature, the tools used are worked with pulleys of larger diameter, and are heavier than the first, on account of the metal becoming harder, and a greater force being, therefore, required to work it. For the same reason the speed is considerably and gradually diminished, according as the metal becomes more difficult to work, from about 50 to 100 revolutions per minute being sufficient. The surfaces may be made with two or more doors to facilitate the work, on account of the quantity of metal which can be worked at once. It is proposed to have two straps upon each drum, the one serving for the small pulleys and first work, and the other, which should be longer, serving for the large tools with which the metal is cut, and which carry pulleys of greater diameter. By this means the shortening or lengthening of the bands when the tools are changed will be avoided.

With a view to provide for some of the inconveniences connected with the invention, Mr. Dormoy suggests that the drums on which the cords or straps work should be long enough for the cords to have sufficient length to move over when following the movements or directions given by the puddler. When there is not sufficient space for a drum long enough, cheeks or discs should be placed at each end of the drum of sufficient height to prevent the cords coming off. It is sufficient to cross the straps to make the tools turn either to the right or left. The point or end of the tools, which should be very heavy, should work upon the sole of the furnace, to prevent adherence of the metal. The forms and dimensions of the tools employed are exceedingly variable, and I may observe that some of those suggested by Mr. Dormoy are of most remarkable and awkward shapes—spoons, soldering-irons much bent about the head, and cheese-knives being apparently the models from which the inventor has taken his ideas, except in one instance, where he forms the rabble end of a piece of wood.

Now, I have no knowledge whatever as to Mr. Dormoy's profession, but, to judge from his invention, I should certainly guess that he is neither directly nor indirectly connected with the iron trade, or he surely would not have made such proposals as he has. The idea of expecting a man to have any command over a rabble rotating at the rate of 1000 revolutions per minute is itself sufficiently absurd, but what can be said to the notion of causing these revolutions to be made by a hand running loosely on a drum, and simply suspending the tool by a pulley placed upon it? Well may he say that the inner end of the tool must be made heavy, but when he tells the puddler to keep down the end of his tool, so as to prevent the adherence of the metal to the sole of the furnace, he directs him to do what I believe to be a practical impossibility. He reminds me of the amateur salmon fisherman and the enthusiastic Scotch attendant, who exclaims—"Hoot awa' mon, keep down th' end o' th' rod. What'd ye say, your leg's broken?" that may be, but ye mun keep down th' end o' th' rod, and run." Unless the puddler apply a strong downward pressure the band would not keep in the pulley a second, and that very pressure would be sure to lift the end off the sole of the furnace. I doubt very much whether the band could be kept in the tool-pulley, under any circumstances, for we must remember that 1000 revolutions

Mr. BECK thought that the best way to proceed in a friendly way; but that as there were dissatisfied shareholders, he considered it would be impossible to carry on the company's affairs satisfactorily. He decidedly objected to any portion of the company's capital being employed in speculative granite quarries in Ireland. Mr. AVENS stated that the person who supplied the whole of the granite for the Northern Thames Embankment from the Ross Mull Quarries had failed. The CHAIRMAN, in reply to various questions put by different shareholders, explained that the directors had never for one moment had any idea of forming a company for the working of the Otea quarries. The proposal was that they should advance £10,000 as a loan in sum of money upon the mortgage of the property and the balance of the contracts, and to have half the profit, guaranteed at 10s. per share, at least. He might also say that the Otea shares were bought at 10s. per share—in fact, taken up from that company as forfeited shares, with 30s. paid up; and he (the chairman) was as responsible for the transaction as any other director. He might also remark that, even allowing that item to be a

3.—In all great undertakings there are many apparently unimportant matters that require to be treated with great care and consideration, the welfare of the whole depending upon proper economy as well as large things; amongst others, the architecture applied to the construction of the excavations of lodes deserves to be considered. In looking back at the workings of the lodes of 3 or 4 ft. in the old mines of Cornwall 100 years ago, we find the old miners were excellent timbermen, and the sides of the mines were all fully supported by lock-pieces, fixed at right angles to the inclination of the walls, fitted and wedged with great nicety. It seems the average width of the lodes were so commonly found adapted to this kind of mining, that it was hardly dreamed that lodes would be found of a magnitude that would preclude the application of wood support upon the old and excellent system of our forefathers; and so it would have some of our agents been to the view that lodes must be necessarily adapted to the size of man, or only a few feet in width, that we have seen a vein of 2 feet wide worked for years in a lode from 30 to 40 feet wide, the agent supposing all the while that he was working the whole width of the lode; and from above a 24 ft. level I have seen 38,000 ft. worth of ore taken from the sides of the workings on the 24 ft. vein on opening the lode to its full width of 33 ft. I have seen several lodes filled with metal for 90 feet wide, and lead lodes so full that every inch would pay for breaking for a width of 60 ft. Again, I have heard agents from districts where the lodes were usually smaller, suggesting the idea that these large lodes would be much smaller as they go downwards, in order to evade the question of the form of mining that should be applied to workings on such a large scale.

With respect to the lodes going smaller in depth, that would certainly be more convenient for timberwork, but possibly not more profitable to the adventurers, for where Nature has been prodigal of gifts it behoves man to extend his views, and rather to work up to scale, than to wish that scale to be reduced to meet his apparent convenience; and there is no good geological reason for supposing these lodes to exist in a narrower form in depth. These great lodes are formed in the great slate measures, existing, according to our geologists, for a depth of 20,000 ft., and from the position and series of the lodes these must fall together at depths far within the extreme depth of the whole deposit of rock, and the argument should be strengthened more in favour of lodes becoming larger than smaller in depth. So there seems to be only one sensible principle

word here had not some parties anticipated and circulated my report. I have
 thus far only given it to my friends who were interested therein. When doc-
 tors differ, the least said is soonest mended, and it may not be well for me to
 advance too positive an opinion, knowing how difficult it is to look into the
 nature of any mine, and I have not often hazarded an opinion unless from some
 data or some noticeable feature in the mine. My opinion, then, is, that the north
 end of the ore is the best, and the south end is the worst. But, here, the ore
 runs north, and this has been the primary cause of the bunch of ore making at
 this junction, and may continue good as long as the lodes will keep company;
 it all depends on the more obtuse or acute the angle at which the lodes intersect
 each other. My view of the lodes having formed a junction is somewhat
 strengthened by their having split again in the 45 east, and also in the 55 west;
 and these two ends having become comparatively poor, it may be fairly con-
 sidered that the length of the bunch of ore. The depth of this bunch of ore
 cannot yet be ascertained, but in all probability, it will go on as long as
 the lodes keep company in their downward course. But looking at the great
 change in the character of the ore, and the gangues accompanying it (a mat-
 ter always most carefully observed by me, but, I fear, too often overlooked by
 respecting agents) are not of the congeal and desirable character as those asso-
 ciated with the ore in back of the 45, I am inclined to think that it will not be of
 long continuance. A similar junction was the cause of making the fine rich
 ore in the East Marion Mine, in the same lode, and suggested the
 ore at the time; the same thing happened in the tiny bunch of ore at East
 Theal Greenville.

complete loss, there would still be at present upwards of 1000l. profit on the shares invested in.

Mr. G. BATTERS believed the directors would meet the shareholders in a conciliatory spirit. The simple question they had to decide was—was it desirable to continue the company? If it were the desire of the shareholders that the company should be dissolved, he (Mr. Batters) believed the Chairman and directors would be the first to acquiesce. As far as he was concerned, he should be afraid of the result of carrying on the business of granite quarrying.

Mr. JACKMAN asked if granite could be considered a mineral. Mr. MURCHISON said it decidedly was so, and had been confirmed in the law courts in several cases.

Mr. J. BATTERS read several letters from shareholders disapproving the proposal with respect to the granite company.

The CHAIRMAN said that although the directors' mouths were to an extent closed, yet he might state that there was a party, the proprietor of the granite quarries, who, from his peculiar position, had the opportunity to obtain contracts for the supply of stone upon a large scale, and at remunerative rates. In preparing the blocks for the Prince Consort Memorial (which had been supplied from the quarry in question), thousands of tons of stone were removed, which could be inexpensively converted into paving stones. Half the profits resulting from these contracts would be realised by the company, while the quarries and contracts would be taken as security. It was computed that the profit to the company would not be less than 10,000l. for the first year.

Mr. DUNTON (a director) said the board were anxious to do that which they considered would be the best for the shareholders, and if the shareholders were willing that the company should not be carried on, the board would gladly acquiesce in the decision. He suggested that a circular should be forwarded to each shareholder, to ascertain his opinion upon the question.

Mr. ROBERTS thought the simplest way to settle the question was to agree to a voluntary winding-up, and then those desirous of continuing could form themselves into a new company.

A long and desultory conversation took place, during which it was mentioned that there was a large majority of the shareholders in favour of continuing operations, the numbers being 163 proxies for 13,000 shares, besides several proxies for 1600 shares which were received too late, against 43 proxies for 6360 shares. It was eventually agreed that the meeting should be adjourned until July 30, before which it was hoped some amicable arrangement would be made.

A vote of thanks to the Chairman and directors terminated the proceedings.

WESTMINSTER MINING COMPANY (LIMITED).

The first ordinary meeting of shareholders was held at the account-house, on the mine, on July 13.

Mr. THOMAS THOMPSON, managing director, in the chair.

The notice convening the meeting having been read, the directors and agents' reports were then read, as follows:—

The directors have much pleasure in being able to congratulate the shareholders on the condition of the works at this first meeting of the company, which has been called on the mine to enable those who may attend to form a just appreciation of the value of the property. The shareholders will remember that the object of the company on its formation was to lay open the mine in the most efficient and profitable manner for working, and that this could only be effected by the expenditure of a large amount of capital. A very cursory glance at the works will convince the shareholders that this original object is in course of being attained. They will observe that the machinery is of the most massive and effective description, and now that it is fixed the directors can confidently assert that the future of the mine is no longer a speculation, but a certainty. Reference to the agents' report will show the extent of ore ground discovered and now being laid open in the 70. The lode in this level has greatly improved, compared with the 60, and indications are already manifest that the 80 will prove still better than the 70. To render available to the best advantage the resources of the mine, the agents advise that the lode should be opened up at different levels, so as to develop a large extent of ore ground, and secure a lasting and profitable mine. The property possessed by the company is traversed for nearly two miles by one main lode, on which the present operations are concentrated, and in addition several parallel lodes are known to exist rich for mineral. A very fine discovery has been made in the eastern part, which is happily drained by neighbouring mines, and from the great extent of mineral ground possessed by the company in the western part, and which is turning out so well, the agents recommend the division of the property and its working by two distinct companies. The eastern mine bids fair to be a successful and dry mine, and the western, if properly worked with the best machinery, will be a machinery of its kind, and with discoveries which more than warrant all the outlay and anxiety bestowed on it during the past year. Success is now not a matter of speculation but of absolute certainty. Should it on further consideration be deemed desirable to carry out the recommendation of the agents, the directors will call an extraordinary meeting, when the matter will be more fully laid before the shareholders. In accordance with the Articles of Association, all the directors retire at this meeting, but are eligible, and offer themselves for re-election. They recommend that Mr. T. N. Harrison be added to the board.

July 13.—Since the commencement of this company's operations all the works, both at surface and underground, have been proceeded with as rapidly as possible, and carried out with a view to a full and satisfactory development of the property. The old engine-shaft was found too small to contain the heavy pit-work required for draining the mine, and the engine quite inadequate to the work to be performed in order to insure permanent success, besides being too far west to command to the best advantage the main deposits of lead ore; it was, therefore, considered advisable to cut down and enlarge a shaft 90 fms. further east, and now known as Thompson's engine-shaft, which will go down in the heart of the ore ground already referred to, and enable us to prosecute with vigour this part of the property, and secure, beyond doubt, a permanent paying and profitable mine. The work undertaken here is of a stupendous character, and in order that they should answer and be made suitable to the interest of the company in every possible way, they required the utmost attention and care in laying them out, which has been done. Thompson's engine-shaft was formerly a small one, used only for the purpose of drawing the stuff; it is now made 14 ft. long by 8 ft. wide from surface to the 70, and is capable of containing pitwork of the largest dimensions. This shaft has taken a very large quantity of timber to make it properly secure, and has been fitted out with 20-in. pitwork, nearly all being quite new, with main rods, &c., to match of the very best description, and when completed, as it will be in a few days, will, in our opinion, be second to none in the kingdom. A 70-in. cylinder pumping-engine has been erected, and is now ready to work, which we believe to be for all practical purposes quite equal to new. The buildings for the reception of the engine and boiler, &c., are well and substantially built of the very best material, and cannot fail to give the greatest satisfaction. A strong capstan and shears have been erected, and supplied with a new steel rope 200 fathoms in length, all of which is of the very best description, and the requirements of the mine for many years to come. Having given a brief description of the machinery and pitwork, we now come to the underground department, with its general character and prospects, which, we are pleased to say, are of the most promising nature. A run of ore ground has been driven through at the 70 for about 70 fms. in length, and we calculate upon having at least 40 fms. yet ahead of this 70 end before we reach the large cross-course which divides the eastern from the western section of the mine; this run of ore will yield for upwards of 100 fms. long from 1 to 1½ ton of ore per fat, and in places from 3 to 4 tons per fm., and the very decided improvement which has taken place from the shallower levels downwards shows that the deeper levels will be found much more productive than any have hitherto been. The lode in the 70 end, east of Thompson's shaft, is now fully 4 ft. wide, and worth at least 2 tons of ore per fm., and so far improving as it advances. The 80 has been driven to within about 10 fms. of the ore ground; lode large, yielding good stones of ore, and is much superior in character to that seen in the levels above; when this level penetrates the ore ground we anticipate good results. In the eastern mine we have enlarged and secured the shaft as deep as 40, and are sinking below it, the lode is of a very promising nature, and worth about 15 cwt. per fat for lead ore; this we regard as a splendid piece of mineral ground, and we have not the slightest doubt on its being developed will be found quite equal in productiveness to the western mine. A considerable portion of the property known as Pwll Melyn and Union Mines still remain unexplored; large quantities of ore have been raised from this ground, and will doubtless be found well worthy attention at some future period. In conclusion, we beg to call your attention to the extensive range on the main lode, which now includes the eastern mine, and secure, beyond doubt, a permanent paying and profitable mine. The lode in the 70 end, east of Thompson's shaft, is now fully 4 ft. wide, and worth at least 2 tons of ore per fm., and so far improving as it advances. The 80 has been driven to within about 10 fms. of the ore ground; lode large, yielding good stones of ore, and is much superior in character to that seen in the levels above; when this level penetrates the ore ground we anticipate good results. In the eastern mine we have enlarged and secured the shaft as deep as 40, and are sinking below it, the lode is of a very promising nature, and worth about 15 cwt. per fat for lead ore; this we regard as a splendid piece of mineral ground, and we have not the slightest doubt on its being developed will be found quite equal in productiveness to the western mine. A considerable portion of the property known as Pwll Melyn and Union Mines still remain unexplored; large quantities of ore have been raised from this ground, and will doubtless be found well worthy attention at some future period. In conclusion, we beg to call your attention to the extensive range on the main lode, which now includes the eastern mine, and secure, beyond doubt, a permanent paying and profitable mine.

The CHAIRMAN said the mine had that morning been inspected by Capt. Jas. Nancarrow, of Shrewsbury, whose report had been placed in his (the Chairman's) hands since the meeting had commenced. Capt. Nancarrow was an independent inspector, and had never seen the mine before. He would read his report. It was as follows:—

Agreeably with your request, I have inspected the above-named mining property, and now beg to hand you my report thereon. Thompson's engine-shaft is sunk to the 70, and the said level driven 15 fms. east, where the lode is 4 feet wide, composed of a soft quartz and lead ore, and will give fully 2 tons of ore per fat; I believe as you proceed eastward this level will further improve, for the dip of the ore is to the east, and the back of the level is richer than the bottom. The 80 has been driven from the cross-course, and is from 40 to 80 fms. before the 70, and judging from the 60 you have a right to expect ore ground in the 70 home to the cross-course. At the old engine-shaft you have sunk to the 80, and I am informed that you have driven about 5 fathoms to the west and 15 fms. to the east of the shaft, and in each level you have a large lode, which no doubt will give a large quantity of ore. The water is up to the 70 at this shaft, therefore I could not see those 80 fms. levels. You will, however, resume the driving of these levels when you get the new engine to work, which will be complete in a few days, and also begin the sinking of Thompson's engine-shaft below the 70 fms. level, and from all these points you will be raising ore. Hitherto you have had but one shaft to get down with, and the whole force of water to contend against, but now, with the two engines and two shafts, you can work doubly as fast, and with a great deal more economy. I have also looked at the eastern shaft, which is down about 40 fms. from surface; the lode here is about 2½ feet wide, and will yield from 12 to 18 cwt. of ore per fm. I consider this part of the mine to be of great value to you, and might be worked as a separate sett. You have quite ground enough for two extensive mines, and the probability is that you will get down to a great depth there without much water. I cannot close this report without saying that I have never seen a better lot of machinery, and it reflects great credit on all parties concerned. You have ample engine power to go to a great depth, and I see no reason whatever but that you may have as good a mine as any in the district, and I believe you have only to lay open the ground, and that ere long you will be in the Dividend List.

JAMES NANCARROW.

The CHAIRMAN said, after the very elaborate reports which had been read, his remarks need be but very few. When the present board first took the company in hand they had to perform a very arduous task. To ensure success a large amount of money had to be expended, and an immense amount of work to be performed; and this meeting has been called on the mine because it was impossible that any description could give the shareholders an adequate idea of what had been done. Those who were here to-day would, however, be able to

form some idea of it. He did not believe that any mine could show a greater amount of work so thoroughly well done in the time; and now that the machinery was ample to cope with the water, it remained but to lay out the ore ground already discovered in a miner-like way, so that it might be taken away economically and expeditiously, to ensure large dividends. It would be seen that the company were possessed of a very large sett, and that the eastern and western portion, although on the same lode, were entirely independent of each other. It was suggested by the agents, and he thought wisely, that these two portions should be worked as two distinct mines, by two distinct companies. It would be remembered that when the eastern ground first came into the possession of the Westminster Company it was heavily watered, like the western; but what had happened? A neighbouring mine had drained it, and there would be no necessity for the erection of any expensive pumping-machinery, consequently, not only would the great cost incurred in the western part be spared, but also a large monthly outlay for coals. The prospects in the eastern ground were most satisfactory; the mine might be said to be proved, and he thought that in any scheme that might be laid before the shareholders in the Westminster Company would be entitled to ask something handsome for this very valuable piece of ground. The outlay on the eastern ground would be very small. A drawing-machine would have to be erected, but not immediately, whilst the mine was returning ore at the present moment. In moving that the reports be received and adopted, he could but congratulate the shareholders on the possession of a great prize.

Mr. HARDING asked if the shares in the new company would be offered *pro rata* to the Westminster shareholders. The CHAIRMAN said, certainly; and if they are wise not a single share would be left for outsiders. The directors were not prepared at the moment with any definite scheme, but an extraordinary meeting would shortly be called in London, when the matter would be fully discussed, and the necessary resolutions proposed.

Mr. BATTERS said they certainly had a magnificent property. There were mines in the neighbourhood which had raised 400, 500, and 600 tons of lead ore a month, and one almost immediately joining their own had given a profit of no less than 100,000l. a year. He would ask Capt. Evans whether he knew of any mine in the neighbourhood so laid out, and with more brilliant prospects before it, than Westminster? There were but 6000 shares, and without being greedy, very much smaller returns than those spoken of above would render the shares highly valuable. Capt. EVANS: There can be no question about it. Westminster is one of the most valuable mines in the neighbourhood, either the eastern or the western ground, it matters not, which are both highly valuable. Capt. JOHN KITTO: That is my opinion, and I will take my full complement of shares in any new company started to work the eastern ground. Capt. EVANS: And so will I.

The CHAIRMAN had not had an opportunity of seeing Capt. Nancarrow since he had been underground that morning. Capt. Nancarrow was then present, and the shareholders, no doubt, would like to hear a few words from him on the subject. Capt. NANCARROW said he never was more pleased with a mine in his life, or with the mastery manner in which it had been taken in hand, reflecting the greatest credit on all concerned. The ground in the western mine could be very easily and cheaply opened; it required little or no powder; the whole of the lode would come away, thus securing ample ventilation, whilst very little timber was wanted. There was a splendid lode in the 70; he would not wish to see a better, and the ore ground would undoubtedly hold out to the cross-course, which was dipping to the east. The returns would shortly be very large. In the eastern ground he considered they had a good mine already proved; it only required opening out, during which time it would produce fair quantities of ore. The shareholders could easily perceive from the old workings on the back of the lode that immense quantities of ore had been taken away. He never saw better machinery or pitwork; it was ample for all that was required.

Capt. EVANS said, to show the nature of the ore ground in the 70, one pair of men in the same run of ground, the back of the 60 had broken no less than 100 tons of ore, and the nature of the ore was such that the dressing cost was very trifling indeed. The adoption of the reports was then carried.

The CHAIRMAN: The next business before the meeting was that of the election of the directors. According to the Articles of Association all the directors would retire, but were eligible, and offered themselves for re-election. It was recommended that Mr. T. N. Harrison, a holder of 360 shares, should join the board. A motion for the re-election of the outgoing directors, together with Mr. T. N. Harrison, as director for the ensuing year, was put and carried unanimously.

Mr. Cooper, of the firm of Messrs. Johnstone, Cooper, and Wintle, public accountants, was then elected auditor.

The CHAIRMAN said he thought they should not separate without recording their high opinion of the services of their agents, Capt. Evans and John Kitto, and he would beg to include in their vote of thanks their under agent, John Reeseigh. One and all had had a most laborious and arduous task to perform, and he might be permitted to say that he thought it had been well done.

A vote of thanks was then carried unanimously.

Mr. BATTERS said he had another duty to perform, and should not leave that meeting without expressing his high opinion of the great services rendered to the company by the managing director. He had been the main-spring of the company, and the primary cause of its success. Mr. HARRISON had great pleasure in seconding this resolution. He was one of the oldest shareholders in the mine, his shares having cost him, before they were subdivided, no less than 20l. a share, and he had since paid calls. He was quite sure that if it had not been taken in hand in the energetic manner that it had been by the managing director, the mine would have failed, and the shares would have been worthless. He was sure that his first visit to the mine, and after what he had seen and heard it would be a long price that would tempt him to part with any of his shares. Mr. BATTERS fully corroborated all that had fallen from Mr. Harrison. He had constantly been in communication with Mr. Thompson, and could safely say that he (Mr. Thompson) had been the prime mover in the success of the company, and the shareholders were greatly indebted to him for their present satisfactory position.

The CHAIRMAN, in returning thanks, said he had not taken up the mine without well knowing what he was about, and that which finally decided him was the report from his friend, Capt. William Kitto, a man on whose mining ability and word he could fully depend, and who, after his inspection, said, "If you only spend the money on this property it is not a speculation, but a certainty."

The meeting then broke up, when the shareholders adjourned to the mine, and the new 70-in. cylinder engine was set in motion by Mrs. Thompson, amidst the enthusiastic cheers of a large concourse of spectators who had assembled to witness the start.

CENTRAL AMERICAN ASSOCIATION.

An extraordinary general meeting of shareholders was held at the company's offices, Westminster Chambers, yesterday.

Capt. BEDFORD PIM, R.N., in the chair.

Mr. R. JAMES (the acting secretary) read the notice convening the meeting, and the subjoined circular, which had been forwarded to the shareholders:—

"The shareholders present at the late general meeting were informed that it would probably be necessary to temporarily provide some further capital for the purposes of the Javali Mine, unless considerable remittances of gold should speedily come forward.

The meeting expressed a strong opinion in favour of providing any such required capital by the issue of further debentures, rather than by a small call. The directors thereupon arranged an extraordinary general meeting, to empower them to issue debentures (if necessary) to the amount of 10,000l., in excess of the sum authorised by the meeting held on August 21, 1866.

These new debentures will rank with the other debentures of the company, and will bear the same rate of interest. They will be issued, like the other debentures, for a period of six months.

Shareholders desiring to take up any of the new debentures are requested to make application to the secretary of the company, not later than August 1.

The amount of any debentures so taken up will be payable on August 1.

The directors are highly satisfied with a failure, and the shares are confidently to expect early, regular, and considerable remittances of gold.

The debentures proposed to be authorised will be issued only if, and so far as, delay or disappointment in the expected remittances may render their issue necessary."

By advices from Col. Maury, dated Javali, May 2, it appears that over 130 men were employed; that the water-course and launders had been repaired, and that five cups were running, to be increased in a few days to six; a dam was nearly completed, Colonel Maury was taking out over 25 tons of ore daily, more than one-half of which was from a "hilo" of more than 10 cwt. produce, and he had made a contract for the delivery of 30 cart-loads of ore per day at the turbine, at 40 cents per ton. He had also run both the Pim and Pollock tunnels about one-sixth further than previously, and at diminished cost. In a month direct communication would be opened, by means of single continuous shafts, with the bottom of both Nispero and Socorro, and they would be extracting the beautiful ore found there, giving 6 to 10 cwt., with a mule or horse windlass. The Pollock tunnel was being driven at the rate of 2 ft. per day, the men working day and night. Col. Maury had secured two or three good timbermen—first-rate miners, Frenchmen, who had been many years in Australia; these he considered capable of doing all he would want done for at least one season. Col. Maury thinks he has discovered a general rule by which he can determine the formation and exact position of the rich "clavos" with which this mine abounds. Already he is pretty sure, but not certain, that he has discovered a beautiful clavo in the Socorro, and is now busy all and every day trying to determine its exact position in each level.

The CHAIRMAN said that it devolved upon him to move the resolution to consider which the meeting was called. He had only just returned from the mines, and would, therefore, leave Mr. Pollock to make some remarks as to its object. He moved, "That the directors be and are hereby authorised to borrow, in the name and on behalf of the company, any sum or sums not exceeding in the whole the sum of 10,000l. sterling, such sum or sums to be in addition to the sum authorised to be borrowed by resolution of the company in general meeting, held on August 21, 1866. And that the directors be and are hereby authorised to issue, in respect of any sum or sums so to be borrowed, debentures under the common seal of the company upon the same terms in every respect as the debentures issued under the authority of the said resolution of Aug. 21, 1866." Mr. POLLOCK, in rising to second the motion, thought it unnecessary to enter into the particulars of the resolution, the shareholders being well acquainted with the subject. The directors had to provide the funds; he was ready to go on providing the money if the directors are authorised to take it from him. The resolution was then put and unanimously carried. A call might be more desirable in the absolute interest of the shareholders, but it seemed to be objected to by the majority of them, and so long as they preferred that money should be raised in another way, the directors were prepared to meet their wishes. If the remittances come forward as anticipated, the debentures would be speedily paid off.

The CHAIRMAN said that the whole 10,000l. might not be required. A SHAREHOLDER suggested that the amount required was small, and probably only for a short time, he did not think it worth while to make a call.

The resolution was then put and unanimously carried. A call might be more desirable in the absolute interest of the shareholders, but it seemed to be objected to by the majority of them, and so long as they preferred that money should be raised in another way, the directors were prepared to meet their wishes. If the remittances come forward as anticipated, the debentures would be speedily paid off.

done for about 2000l. per annum. They entertained the most amicable feelings towards the Chontales Company, who had a perfect right to make the claim. Thanks were then voted to the Chairman for his conduct in the chair. The CHAIRMAN acknowledged the vote, and expressed his belief that they were in possession of a property which would prove the richest in the world. Mr. POLLOCK remarked that whilst the St. John del Rey had a hard quarry yielding only ½ oz. to the ton, theirs was extremely friable, and gave out about 1 lb. The meeting then separated.

SUMMER HILL MINING COMPANY (MOLD).

A general meeting of shareholders was held at 32, Redcross-street, Liverpool, on July 12.—Mr. E. J. HALE in the chair.

The minutes of the committee of management since the last general meeting were read and confirmed. The report of the committee of management was read, as follows:—

The committee appointed on Jan. 2 last for the management of the above mine have great pleasure in reporting, for the information of the shareholders, that the works have been carried on with great energy and perseverance, and that their efforts have been so far crowned with success that the committee have been enabled to declare two dividends of 5s. per share each since the last general meeting, and that they have still a good balance in the hands of the bankers, and a large lot of ore on hand, which would have been turned into cash, but owing to the scarcity of water, they have been unable to wash the same, and get it ready for market. The committee have also much pleasure in announcing that the lead ore in the western driving looks even better than it did, and continues to yield a good amount of ore. The committee have paid the following cost-sheets, bills, &c.:—

1866.—December cost-sheet..	£ 46 17 6	Bills £ 9 4 11	Royalty £ 6 5 6
1867.—January ..	32 16 0	" 2 4 9	" 1 10 0
February ..	40 5 0	" 4 4	" 17 0 0
March ..	43 6 1	" 4 4	" 14 6 0
April ..	34 6 1	" 1 19 3	" 10 17 6
May ..	42 11 2	" ..	" 11 7 10
June ..	50 14 3	" 1 8 3	" 15 4 3
Tributers, on account	2 0 0	" ..	" ..

Total cost-sheets ..	£299 16 3	Bills £19 0 6	Royalty £75 10 6
" bills ..	19 0 0	" ..	" ..
" royalty ..	75 10 6	" ..	" ..
Treasurer and secretary ..	17 7 5	" ..	" ..

Total ..	£411 14 8		
May 7.—Dividend on 500	127 0 0		
July 11.—ditto	127 0 0		
Bank commission, &c.	1 7 8		

Total expenditure ..	£667 2 4		
and the committee have received the following amounts from the sale of ore:—			
Amount due but unpaid at the last general meeting ..	£ 22 12 0		
January sale, 12 tons ..	141 16 0		
February sale, 9 tons ..	116 13 0		
March sale, 7 tons ..	88 2 0		
April sale, 7½ tons ..	92 12 0		
May sale, 10 tons ..	123 12 0		
June sale, 11 tons ..	132 7 6		
Bank interest ..	14 11		
Balance at the bank at last general meeting ..	74 14 5		

Total receipts .. £795 2 4 leaving a balance of 128l. 0s. 5d. (125l. 7s. 10s. in the hands of the bankers and 2l. 12s. 7d. in the hands of the treasurer), after paying the second dividend of 5s. per share. In addition to the above there is at least 10 tons of ore in the store, which, from the want of water, the committee have not been able to get into the market. The committee regret to state that the south driving from Hale shaft, from which they expected good results, has proved fruitless, having run into an old level; they are, however, consoled by the fact that no clavo has been found in the west driving out of the north-cross looks as well or even better than east, and they have also ore in the east driving from the same cross, and a large quantity of good untried ground yet to explore. The committee congratulate the shareholders on the receipt of the second dividend of 5s. per share, and that they have every confidence in being able to continue similar dividends periodically; they also congratulate the shareholders upon the fact that no call has been made since January, 1866. The committee have to request that the meeting will be before the close of the business of the day be pleased to elect a committee for the management of the mine for the ensuing six months, the term of office for the present committee were elected having now expired.

The committee appointed in January last were unanimously re-elected. Votes of thanks having been given to the Chairman and committee, the meeting separated.

DIPHWYS CASSON SLATE COMPANY.

The general meeting of shareholders was held at the offices of the company, Craven-street, Strand, on Thursday.

The SECRETARY (Mr. John Hughes) having read the notice convening the meeting, the balance-sheet and profit and loss account, and the report of the directors were submitted. The accounts showed that there is 4375l. 4s. owing to the company on slate accounts, and 260l. 12s. 7d. on other accounts, and that there is a cash balance at the bankers' in hand of 1025l. 12s. 10d. During the year ending June 3 the sales of slates realised 22,121l. 2s. 1d., and the balance of profit and loss applicable to payment of dividend was 7404l. 14s. 2d. The directors' report states that the increase which has taken place in the quantity of slates manufactured during the past year is not more important than the improvement which has occurred in the quality of the stock during that period, and the consequent diminution in the cost of working the quarry. This is strikingly illustrated by the facts that in June, 1866, it required that 30½ tons of rubbish, top rock (including the fall) and slate rock should be removed in order to produce 1 ton of manufactured slates. Charging a ton of slates with its proportion of all the expenses incident to its production, the cost to the company of a ton of slates in June, 1866, was 2l. 3s. 10½d. In June, 1867, it required that only 12½ tons of rubbish, top rock (including the fall), and slate rock should be removed in order to produce 1 ton of manufactured slates. Charging a ton of slates with its proportion of all the expenses incident to its production, the cost to the company of a ton of slates in June, 1867, was 1l. 8s. 9½d. If all the other charges set forth in the profit and loss account be added, then the cost to the company of a ton of slates in June, 1866, would be raised to 2l. 17s. 2d., and in June, 1867, to 2l. 0s. 8½d. Restricting the comparison to the ordinary operations of quarrying, such as the removal of top rock, quarrying, and manufacturing the slate rock, the facts stand thus:—In June, 1866, it required the removal of 24½ tons of rock for the production of 1 ton of slates, its production costing 1l. 6s. 3½d. In June, 1867, it required the removal of only 9½ tons of rock for the production of 1 ton of slates, its production costing 15s. 9½d. only. The sum of 4241l. 12s. 7d. has been expended in development during the past year, and is charged in the balance-sheet to development account. The purposes for which this sum has been expended are:—the formation of levels, the roofing of chambers for underground workings, the removal of the fall, and of hard.

The time is near at hand when all charges for development, and for every other purpose connected with the operations of the company, must be met, not by capital, but by income derived from the sale of slates; and it is, therefore, gratifying to find that there is a reasonable prospect that even during the present year, owing to the increase in the yield, and the reduction in the cost of production, the income will be fully adequate to bear this additional burden, and also to provide for a dividend of not less than 5 per cent. on the paid-up capital of the company. The directors have given much attention during the year to the securing of a market for the sale of the increasing produce of the quarry; and they have satisfaction in stating that they have been to a considerable extent successful. The balance-sheet shows that there was, at the close of the year, a stock of slates on hand valued at 5519l. 7s. 4d. It must not, however, be feared that this amount of stock was on hand owing to the want of a market for the slates. On the contrary, the orders on the books at that date would absorb slates to the amount of 7700l.; and it should be borne in mind that there must necessarily be a large stock on hand at all times to allow of cargoes comprised of various sizes of slates being readily made up. The sum of 7404l. 14s. 2d. is stated in the balance-sheet to be "applicable to payment of dividend." In order, however, to allow of such an appropriation of this amount it will be necessary to restore to the revenue account the sum of 5617l. 10s. 8d. expended in the year, out of the earnings of the company, on the development of the quarry, 4241l. 12s. 7d.; buildings, 874l. 13s. 8d.; and plant, 501l. 4s. 5d. The means to be adopted for effecting this object, the question of dividend, its amount, mode of payment, &c., are matters which the directors submit for the consideration and decision of the shareholders.

CHIMOGENE.—At a recent meeting of the American Polytechnic Association, Dr. Van Der Weyde made some remarks on the chemical composition of petroleum and the substance derived from it. The analysis of petroleum is not unlike that of water. That it should be satisfactory the petroleum must be taken from a pure source, for it is affected by the presence of different substances, such as oxygen, hydrogen, arsenic, just as the water taken from the mineral springs is impregnated with iron, sulphur, &c. He then gave the proportion in which all the petroleoids—if we may use the term—contain their constituents, carbon and hydrogen. He showed how chimogene, a new substance which has been formed by condensing the gas escaping from petroleum distillations, might be used to produce ice. Placing some test tubes containing water in a glass with a little chimogene, he caused this latter to evaporate by exhausting the air, and the water was immediately changed into ice. He has constructed a machine for making ice on this principle, on a large scale. It is like the boiler of a locomotive, the water being frozen in the pipes. It is a singular fact that ice may be made at a cheaper rate by ammonia than it can be collected from the lakes. As chimogene is much cheaper than ammonia, there must be consequently less cost in producing ice by its use.

IRON AND ELECTRICITY.—Mr. Thomas Ingle, writing on this subject to the *Athenaeum*, says:—"At the meeting of the British Association at Birmingham, I addressed a letter to Mr. Bessemer, proposing the employment of electricity to eliminate the phosphorus, &c., from iron whilst in the state of the spongy, and subsequently I conversed with him on the subject in the hall of the school; but he did not appear then to regard the suggestion as likely to prove of any service. Lately I read in the papers that it has been employed by one of the large manufacturers in Sheffield, and with the most important results, identical with those I had stated might and could be effected only through the electric agency—namely, the separation of the phosphorus, &c., from their combination with the iron, and thereby removing the great obstacle to the production of pure steel. I have written to Mr. Bessemer to enquire if he had tried the experiment, but have not received an answer, and I am curious to learn whether the suggestion I made at Birmingham, in 1865, has induced some party to make use of the plan I proposed; and perhaps someone can inform me if ozone is not generated and

Sold at Ticketings in Cornwall from June 30, 1848, to June 30, 1867

Date.	Ore.	Money.	Produce.	Standard.
1848.	155 616	£ 825 080 2 6	81½	£ 97 7 0

	Ore.	Money.	Produce.	Std. 7.
1848.	155,616	\$ 826,880	2 6	84 7 0
1849.	154,983	716,647	0	84 22 1
1850.	150,890	814,037	0	103 19
1851.	164,299	808,244	1 6	101 0 0
1852.	152,802	828,057	19 6	106 12
1853.	180,095	1,124,561	2 0	136 16
1854.	180,687	1,158,756	3 6	140 2 0
1855.	188,969	1,212,686	8 0	141 10
1856.	209,305	1,285,639	8 6	140 0 0
1857.	188,758	1,076,190	7 0	139 10
1858.	183,292	1,083,728	18 6	135 1 0
1859.	183,944	1,079,075	17 0	133 6
1860.	180,448	1,079,403	4 6	133 18 0
1861.	176,097	1,013,400	5 6	130 1 0
1862.	186,662	977,017	2 6	127 13 0
1863.	176,625	872,474	4 6	120 4 0
1864.	166,707	836,583	6 0	124 17 0
1865.	164,940	806,835	10 0	125 0 0
1866.	148,777	678,641	3 0	118 7 0
1867.	125,679	547,689	8 6	107 1 0

Mines.	Ore.	Amount.	Price.
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RHENISH CONSOLS.—George Sweet, July 16: Christiansa: The lode in Pitar's stopes, in the bottom of the 10 lachter level, will yield 4 tons of lead ore per lachter. The bottom of Sweet's winze is now as deep as the roof of the lode, but the bottom of the drive is not yet far enough on to hole to the winze, the ground in the end having to be driven in to pass through than we anticipated. Six men are now employed in this drive, which will be broken through to the winze as soon as possible. The other points are without any material change.—Bleibach: The drive on the north lode, in the adit level west, will yield 18 centners of lead ore per lachter. The stopes in the roof of this level will also yield 18 centners of lead ore per lachter, and the drive west on this lode, in the 10 lachter level, is yielding splendid stones of lead ore. We hope this end will now open out paying ground. The stopes on the middle, or south lode, of this lode, will yield 25 centners of good lead ore in the 10 lachter level. We consider it necessary to drive the further west on the lode, which we hope will prove of great importance to the mine. The lode in the shaft sinking below the 10 lachter level is of a very favourable appearance, and will yield 25 centners of blende, with 12 centners of lead ore per lachter. The drive on the south lode is presenting a better appearance, there being a great deal of quartz, with good spots of lead and blende ores.—Fahrenberg: There is no change of any importance, the drive south, on the course of the lode, being still poor.

LUSITANIAN.—Palhal: The lode at Taylor's engine-shaft, below the 110, is worth 1 ton per fathom. River shaft is holed to the 90; the lode is 1½ ft. wide, composed of flookan.—Levels on Basto's Lode: The lode in the 110, east of Taylor's shaft, is worth 1 ton of ore per fm. In the 110, west of the 10 lachter level, the lode is composed of quartz, in the 100, east of the same, the lode is 1 inches wide, composed of flookan. The lode in the 70, west of River shaft, has very much improved, being now worth 1½ ton of copper ore per fm. The 38, west of Perez' shaft, is improving, the lode now producing stones of ore. The 28, west of the same, is suspended, the lode being very poor and irregular. We are going to drive a few fathoms in the 70, west of the slide, to see if the lode improves; it is at present 4 in. wide, and very regular; and we have small stones of ore from it. In the 18, west of Perez' shaft, the lode is 1 ft. wide, worth ¾ ton per fm. In the adit, west of the same, the lode has become more regular; it is composed of quartz and small quantities of blende, and is very rich. Levels on the 80, east of the 80, west of the slide, the lode is 1 ft. wide, having in it a branch of ore worth ¾ ton per fathom, which we hope will improve. In the 70, east of the slide, the lode is 1½ ft. wide, composed of quartz and flookan.—Levels on Ponte Lode: In the 28 fm. level, east of the slide, the lode is 6 in. wide, composed of quartz and muddle. On Great Caunter Lode: The lode in the 60, west of Oak shaft, is 1 ft. wide, composed of quartz and flookan, impregnated with lead.—Cross-cuts: North of River shaft, in the 60, the ground is a hard gneiss. South of Taylor's shaft, in the 100, the ground is a hard gneiss. South of the 68, west of Perez' shaft, the ground is a hard gneiss. Levels on the 60, west of Ernesto's winze, above the 100, against Taylor's, the lode is 1½ ft. wide, composed of quartz and flookan. Above the 100, against No. 63 winze, the lode is 1½ ft. wide, composed of flookan. In No. 64 winze, below the 100, west of Taylor's shaft, the lode is 1 ft. wide, composed of quartz and stones of ore.—Stopes on Basto's Lode: Above the 18, west of Fonsaca's winze, the lode is worth ¾ ton per fm. Above the 28, east and west of No. 58 winze, the lode is worth ½ ton per fm. Above the 80, east and west of Domingo's winze, the lode is worth 1 ton per fm. Above the 80, west of Domingo's winze, the lode is worth 2 tons per fm. Above the 80, east of Taylor's shaft, the lode is worth ¾ ton per fm. Above the 60, west of Ernesto's winze, the lode is worth 1 ton per fm. Below the 60, west of Ernesto's winze, the lode is worth 1 ton per fathom. Above the 90, east of Taylor's, the lode is worth 1½ ton per fm. Above the 90, west of Taylor's shaft, the lode is worth 1 ton per fm. Above the 90, east of No. 61 winze, the lode is worth ¾ ton per fm. Above the 100, east of Taylor's shaft, the lode is worth 1½ ton per fm. Above the 100, east and west of No. 60 winze, the lode is worth ¾ ton per fm.—Stopes on Caunter Lode: Above the 80, east of No. 59 winze, the lode is worth 1 ton per fm. Above the 70, east of Tavares's winze, the lode is worth 1 ton per fm. Above the 50, west of Mocaicho's winze, the lode is worth ½ ton per fm. From this stope we have extracted over 1 ton of silver. Stope on Mill Lode: Above the 60, east of the 60, east of Tavares's winze, is worth 1 ton per fathom. On the slide lode, above the 28, west of Mill lode, is worth ½ ton per fm. On the great caunter lode the stope above the 50, east of Lauranco's winze, is worth ½ ton of lead ore per fathom. The stope on Mill lode, above the 38, east of Taylor's shaft, is worth ¾ ton per fathom. Above and below the 50, west of the same, it is worth ½ ton per fm.—Carvalhal Mine: In the 40, east of incline shaft, the lode is small, composed of quartz, spotted with lead. The lode in the 40 fathom level, west of the same, has a good south wall, but the north is composed of a mixture of quartz and country, with spots of lead and muddle. The lode in the 30 fathom level, west of the same, is a good south wall, and is worth 1 ton per fathom for lead and blende. The lode in the 30 fathom level, west of the same, is 3 ft. wide, composed of quartz, with good stones of lead and blende. In the 20, east of the same, the lode is worth 2 tons per fathom. In the 20, west of the same, the lode is worth 1 ton of blende per fathom.—Stopes on Great Lode: Above the 20, east of incline shaft, the lode is 6 ft. wide, being leady throughout, and worth 1 ton per fm. Above the same level it is worth ½ ton per fathom. Above the 20, west of the same, the lode is worth ½ ton per fathom. Above the 30, east of winze No. 3, the lode is worth 1½ ton per fm.—Figueiredo Mine: In sinking Henty's shaft below the 20 metre level the ground is still very

WALES.

METALLURGY—ALLEGED NON-INVENTIVENESS IN ENGLAND.—There has been for some time an evident want of activity in our metallurgical processes. The causes of this are sufficiently obvious. The unfortunate attitude assumed by the workmen—more unfortunate for their future than for the future of masters—and the general disturbance of trade being the principal ones. Resulting from this, we find but few of our great manufacturers exhibiting at Paris; but beyond the influence of trade depression, which is a natural influence yet more potent, which has prevented the display of the finer specimens of English manufacture. Exhibitions have not, however, been found profitable. The regular system of the workshops has to be disturbed, and much inconvenience suffered, which the resulting advantages have not been found to balance. It is, therefore, most fallacious on the part of Dr. Lyon Playfair to assume that English manufacture is retrograding, because the display of our metallic industries at Paris is an imperfect one. A glance at the Catalogue will convince any one that our highest class manufacturers have not exhibited. Yet Dr. Playfair, writing to Lord Taunton, thus expresses himself:—"I am sorry to say that, with very few exceptions, a singular accordance of opinion prevailed among our countrymen, that the exhibition at Paris showed little or no progress in the peaceful arts of industry since 1862. Deficient representation in some of the industries might have accounted for this judgment against us, but when we find that out of 90 classes, there are scarcely a dozen in which pre-eminence is undoubtedly awarded to us, this plea must be abandoned. My own opinion is worthy only of the confidence which might be supposed to attach to my knowledge of the chemical arts; but when I found some of our chief mechanical and civil engineers lamenting the want of progress in their industries, and pointing to the wonderful

lbs.)	Aver
cwts.	Aver

advances which other nations are making, when I found our chemical and even textile manufacturers, and our agriculturists, complaining, I naturally devoted attention to elicit the reasons as to the causes."

It is not necessary to quote any further from Dr. Lyon Playfair's letter, which proceeds to inform Lord Taunton that the one great want of England is technical schools. Dr. Playfair is exceedingly illogical. In the first place, his complaint is that "our country had shown little inventiveness since 1862," and then he speaks of the "wonderful advance which other nations are making." We must ask him—in what do those wonderful advances consist? Certainly not in inventiveness. In the second place, he complains of the "inactivity of English manufacturers," and made, we are so bold as to state that there has been more invention shown in England since 1862 than in all the nations in Europe put together. If the "wonderful advances" refer to manipulatory details, we believe, in many cases—certainly not in all—Dr. Lyon Playfair will be right enough. But the absolute weakness of this letter, put forward with an air of authority which is not pleasant, consists in taking what is confessedly an imperfect display of British industry as a fair example of the present state of the British workshops. In concluding his letter, Dr. Playfair says, "It would be a great advantage to our country, through your Commission or through the Committee of Council on Education, should hold an official enquiry on this subject, and should tell the people of England authoritatively what are the means by which the great States are attaining an intellectual pre-eminence among the industrial classes, and how they are making this to bear on the rapid progress of their national industries." In our Mineral and Metallurgical Industries, to which especial reference is made, and to which we have already alluded, our country is in the first place, that we are not doing as well as the other nations, and in the second place, that we are not doing what Dr. Lyon Playfair proposes, and in the third place, that we are not doing what we should be doing.

June 30, 18

proposing it did exist) would not be remedied by any authoritative telling of the Royal Commission or a Committee of Council.

Our iron furnaces are improving in construction and increasing in size. The iron made from inferior ores is greatly improving in quality. Our mills are now the finest in the world, and capable of executing any work for which there may be a demand. We are the only people in the world who are striving—and striving too with every prospect of success—to carry out the process of puddling by machinery; and where else shall we find coal cutting by machinery in so advanced a state as in the British coal fields?

In our process of lead smelting great advances are being made—and from ore of lead containing the largest amount of the best lead now be manufactured. Indeed, in each of our chemical processes we can point to improvements which will show that our knowledge is becoming increasingly perfect is the knowledge possessed by Dr. Lyon Playfair; and a little consideration would have prevented Earl Granville from basing his remarks—made at the distribution of prizes at the London University—on so fallacious a letter as that to Lord Taunton.—*Journal of Science, July Number.*

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending July 14 was 18,085. 14s. 1d.

Mining Correspondence.

BRITISH MINES.

BEDOL-AUR.—H. R. Harvey, July 18: We have nearly completed the plat at the 100 yard level, and shall resume driving immediately, to intersect the east and west lodes; the ground is rather stiff for progress. The lode in the winze sinking below the 70 is looking more favourable for ore, and we are getting some small stones of lead from it. There is no alteration in the tribute pitches. The 40 north, from Reddipper shaft, is opening a tribute ground. The 20, south, from Savelly, is not looking as well, but a change which has taken place in the ground would indicate an improvement in the lode shortly. The 20, north from West Buck shaft, is very promising. The lode in the 10, north from same shaft, is worth 70 per fathom. The 10, north, on the branch, is improving. The adit north is without change. North Lode: The lode in the 40 east is without change. The lode in the 20 east is worth 51 per fathom. Reddipper Lode: The 20 east is opening a tribute ground.

EAST WHEEL GRENVILLE.—G. R. Odgers, William Bennetts, July 17: We have no alteration to report in any of the underground operations since our last advice. We have to-day sampled (computed) 92 tons of copper ore.

EAST WHEEL LOVELL.—R. Quentrell, July 17: The mine is looking very well, the various places in operation being worth in the aggregate as much as reported last week.

EAST WHEEL RUSSELL.—J. Goldworthy, July 17: At Homersham's shaft, in the 150 cross-cut north, the middle or main lode has been cut into several feet, capel, iron, and a little muddle. In the 140 north, the north lode has been cut into nearly 2 fathoms in the bottom of the end, which is composed in the furthest point principally of brown iron, intermixed with a little quartz, with specks of malleable copper; lode hard and troublesome to explore.

In the 130, nearly perpendicular over when in the lode about 2 fathoms, the gossan part of the lode was met with, and presented a very fine appearance. In the 140 east the lode is 2½ feet wide, composed of capel, quartz, peach, muddle, and copper ore to the amount of ¼ ton per fathom. In the 140 east of Friend's winze, the lode is 3 feet wide, producing ½ ton of copper ore per fathom. In Davey's cross-cut, driving north in the 130, the stratum is moderately easy to explore, and highly charged with mineral. By calculation, there is about 10 feet to drive to reach the north lode to the east of the slide, which is an important point.

FURSDON.—M. Collins, July 18: The slope in bottom of the adit level west 1 set to six men, at 21 per fm., and 10s. in 11. tribute, at 10s. per unit. The lode is looking well, and if it continues as at present it will yield us sufficient to pay the working cost of the mine. No other alteration.

GAULTON COPPER.—G. Rowe, G. Rowe, jun., April 13: The ground in the 70, level cross-cut is improving in character as we approach the lode, and rapid progress is being made. The lode in the 60 east is without change since last reported. The lode in the 60 west is showing a very kindly appearance, being worth 3 tons of ore per fathom. The lode in the 60 east in back of this level is worth 4 tons of ore per fathom. The lode in the 60 east in back of the same level east is worth 5 tons of ore per fathom. The lode in the 60 east in back of the 50, east from cross-cut, is worth 5 tons of ore per fathom. The lode in the 60 east in back of the same level, west from Moor's winze, is worth 10 tons of ore per fathom. The lode in the 60 east, west from our sump, is worth 4 tons of ore per fathom. The mine throughout is thoroughly ventilated, and our prospects exceedingly cheerful.

GOTHIC.—J. Lester, July 18: The engine-shaft is now down 10 fathoms below the 30. We intend sinking it about 3 feet deeper before putting in pumps. The indications for lead ore at the bottom continue much better than at any time during the sinking. The rain is coming down in torrents; but if it clears up a little I will go to Aberystwyth for timber and iron for shaft. I will send cost-sheet for June and bills in a post or two.

GREAT LAXEY.—R. Rowe, July 18: In the 220, driving north of the main engine-shaft, the lode is large, but only productive for blende, yielding about 6 tons to the fathom. In the 210 fm. level end, driving north of the Welsh shaft, the lode is near 4 ft. wide, worth about 251 per fm. for lead and blende. In the 200 the lode continues to improve as we drive north, now worth 401 per fathom; and as the slopes in the sole of the 160 (in advance of the 200 end) are looking well, our expectations are thereby confirmed that an early discovery will be made in that level. The 190 fm. level end is opening out a lode 12 ft. wide, composed of blende, lead, and blende worth 1001 per fathom. In the 180 fm. level end, the lode is 10 ft. wide, worth 1001 per fathom. Since boring the 180 fm. level sump to the 165 fm. level we have had to take away some of the side and sole of the 180 fm. level, in order to our resuming the driving of that level north, now for some time suspended, until the sump could be completed, and we are now able to commence the slopes in the sole of the 165, on both sides of the sump, in, we expect, rich ore ground. The lode in the 165 fm. level end is neither so wide or productive as of late, now worth about 451 per fathom; and the 155 fm. level end is about as reported, worth 701 per fathom. In the 145 fm. level end we have reduced our force of men, in consequence of the continued low price of copper, and our greater need of them at Dumbell's. We have, however, in the roof of the 155 south a rich lode both for lead and copper, about 9 ft. wide, and worth 601 per fathom. Dumbell's: The lode in the 125, driving north of the new engine-shaft, has since our last report further improved, now worth 1201 per fathom, and in driving south it continues to be worth 801 per fathom. The ends driving north and south from the south sump, also at the same depth, are of the average value of 501 per fathom. I need hardly say our great object now is to get the communication between the bottom of the new shaft and the south sump as rapidly as possible, required especially for ventilation, the need of which we are now feeling in the driving; but in making this communication we shall at once lay open a large section of rich ore ground for slopes. The lode in the 110 fm. level end, driving north, maintains its size, and is worth from 301 to 401 per fathom. The slopes from the roof of the 110 are not so rich as formerly, a result that has always been held out from the known dip of the ore ground as they would get upwards; but the slopes in the sole of the 85 south, being in the line of the slope, are continuing rich, worth 1501 per fathom. The south slope from the roof of the 85 is also worth 1201 per fathom. The 70 fm. level end driving south is worth 601 per fm. on the part we are now carrying, but there is a part of the lode, with ore in it gone off to the west, which we shall shortly prove. The upper drivings and slopes are much as last reported. The new mechanical arrangements and engineer's work so far prove very satisfactory, and we have no doubt the whole, when completed, will prove equally so.

GREAT NORTH DOWNS.—W. Rich, C. Bawden, July 17: There is very little alteration to report in any of the underground operations since our last report: the lode is still worth 201 per fm. for the length of the shaft. The 85, east of Slegan's shaft, is worth 151 per fm.; a rise in the back of the 80 west is worth 181 per fm. The 85 west of King's shaft is worth 201 per fm.; two slopes in the back of the 85, west of King's shaft, is worth 201 per fm. The 70 end, west of Slegan's shaft, is worth 101 per fm.; two slopes in the back of this level are worth 251 per fm. The 60, east of Barber's, yields good stones of ore. The lode in the bottom of Barber's shaft, below the 60, is worth 151 per fathom for the length of the shaft.

GREAT NORTH LAXEY.—R. Rowe, July 18: Since the 6th inst. the wheel has been unable to keep the shaft clear of water, but yesterday's rain soon had the desired effect, and the shafts are again underway sinking. The lode in the 84 driving north is 3 ft. wide, and again improving, now worth from 5 to 6 cwt. of lead per fathom. The slopes in the roof of this level vary in value from 1 to 1½ ton per fathom. The 84 driving south is in a large lode, now 4 ft. wide, but at present unproductive. No change in the 73 south. The slopes in the roof are worth about ½ ton of ore per fathom, and those in the roof of the 60 from ½ to 1 ton of ore per fathom. We have 30 tons of lead on hand.

GREAT RETALLACK.—G. R. Odgers, John Harris, July 17: At No. 1 shaft we find branches from 1 to 2 in. wide, containing rich silver-lead dipping westerly towards the lode; we like these branches, because we think they are feeders to the lode. The lode in the 20, north from the No. 2 shaft, is altogether 6 feet wide, composed of bunches of friable quartz, white iron, and lead, embedded in a beautiful killas, worth 7 cwt. of lead per fathom; the last 6 ft. of the lode has yielded full 1 ton of lead, and a more promising lode cannot be seen. The lode has been driven rich on the western part of the lode, which is approaching the 20 west main part where the lode is improved. We are glad to tell you that the ground in the 10 south has very much eased; the lode is now 20 in. wide, composed of friable quartz, white iron, and stones of lead, altogether of a much more promising appearance than it has been for the last 8 fathoms driving, and we look forward to meeting with lead again shortly. The lode in the winze sinking below the 10 south is 15 in. wide, yielding good silver-lead; it is not quite so good as it was, now worth 10 cwt. to the fathom; we believe, judging from the appearance of the lode and the ground, that it will be shortly improved to the value of the 10 south, and we are now carrying on the new shaft, good silver-lead, embedded in a good lead killas; we have a good specimen of this lode. The slope above this level will produce from 5 to 6 cwt. of silver-lead to the fathom. We are getting on pretty well with the dressing.

GREAT SOUTH CHIVERTON.—John Nancarrow, July 16: The lode in Gifford's engine-shaft is 6 feet wide, but is not so hard as last week. There is a great deal of fine muddle in the flookan, on the south part, and it looks very promising for lead. The south lode, in the 30 west, still looks exceedingly well. The ground in the 30 west, on the north side, is improving, and we report: the lode to change for the better shortly. The winze below the 20 is nearly dry again, and we have resumed the sinking. The lode yields good stones of copper ore, and contains spots of lead, but it has very little underlie, and the water draining so slowly renders it doubtful whether there is not yet another part of the lode to the north of us in the 30. We shall try to sink further, to ascertain this, before commencing driving north in the 30.

GREAT SOUTH TOLGUS.—J. Daw, July 17: After we forked the water to the 112, we were so unfortunate as to have a breakage at the angle-bob, which took 24 hours to repair; but the 112 is again drained, and we are now preparing to send down another lift from the 112 to the 125 fm. level; but before we do so I should like to know what the committee have decided on as to the working of the eastern ground, as I have not heard from or seen Mr. Pryor since I wrote to Mr. Thomas, on the 8th inst.

GREAT WHEEL BADDERN.—Richard Pryor, H. Tregoning, July 13: Hill Brother's Engine-shaft: In the cross-cut south at the 75 fm. level the ground is just the same for driving as for some time past. We have met with several cross-heads and branches during the week, letting out a large quantity of water, which we have been coming from the tin lode, a little in advance of the present end. In the 75, driving west on the Baddern lead lode, the ground within the last day or two has somewhat improved; the lode in the end is from 2 to 3 feet wide, composed of muddle, flookan, spar, and lead, and the water issuing therefrom still increasing.

GWYDYR PARK.—W. Smyth, July 17: We have reached the bottom of the old shaft, which is about 8 fms. There is a level driven west 3 fms., about 8 ft. from the bottom. In the bottom of this level there is a very loose vughy lode, about 1 ft. wide, of spar, gossan, and lead ore, worth of the latter 1 ton per fm.; there is also good lead showing in the back of this level, worth ½ ton of per fm.; and easy ground for stopping. In the eastern end of the shaft the lode is 1 ft. wide, of spar and lead ore, worth of the latter 14 cwt. per fathom, for 10 ft. high, and lead continuing upwards. There is a branch gone across the shaft, and on the south lode there is a level commenced, in the back of which, and continuing down half way in the end, there is lead from 2 or 4 in. wide, with a loose lode; there is also strong lead in the north wall of the shaft. In the bottom of the shaft the lode is 6 in. wide, of spar and a little lead ore—a promising lode, which I expect will improve in a few feet sinking. In the western end near the bottom the lode is 8 in. wide, and showing good lead ore, and large vugs, out of which the water oozes freely. In conclusion, I beg to say that, from present appearances our prospect are very favourable.

HARWOOD.—J. Race, July 15: In the level going north at Scar Head the stratum is strongly mineralised, which I think is an indication that we are near cutting some vein. Slope No. 2 is partly cut up to the cross vein, and there is a little ore in it. I believe now that the cross vein will bear ore northward; I think this is so, which I have little doubt of, it will be a great advantage, as it will be getting repaired and proving the ground to cut east and west veins at the same time. No. 3 slope is worth about 1 ton of ore per fathom. The slope on

the south branch is worth 15 or 16 cwt. of ore per fathom. In opening the old level to Trough they are getting out of whole ground into the level again, and off to-morrow. The 24 tons of ore will be weighed.

HOLYFORD.—J. H. Rodda, July 14: In the 40 end, north of engine-shaft, the lode is 1½ ft. wide, mixed with a little copper ore, but not to value the ground is hard for exploring, consequently it is suspended for the present. The lode in the 30 end, north of engine-shaft, is suspended for the present. The lode in the 20 end, north of engine-shaft, is suspended for the present. The lode in the 10 end, north of engine-shaft, is suspended for the present. The lode in the 0 end, north of engine-shaft, is suspended for the present.

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lode in the 4th level, west of San Adriano shaft, has been small during the greater part of the month; it is worth $\frac{1}{2}$ ton per fathom. The shaft is still very near the bottom of the 3d level, west of San Adriano. Santiago shaft being the required depth for a 3d level, the men are put to cross-cut north towards the lode. The lode is very small in the 2d level, east of Crosby's cross-cut. We are expecting an improvement in the 2d level, west of Crosby's cross-cut, as there is some very kindly ground above and in advance of it. — **Santa Cruz:** Wines: Taylor's engine-shaft, below the 4th level, is hard for sinking, there being only a part of the lode in the shaft. Crosby's engine-shaft will reach the depth for a 4th level this month. — **General Remarks:** There is no alteration requiring notice in the stoves, which continue to yield a fair quantity of ore. The surface work is going on very regularly. We estimate the raisings for July at 200 tons. [For continuation of Foreign Mines, see page 477.]

CO-OPERATIVE TIN-SMELTING COMPANY.—We understand that a new tin-smelting company is about to be formed, on the co-operative principle, to be called the "West of England Co-operative Tin-Smelting Company." The principle of working it will be—say, after paying the shareholders 10 per cent. out of the profits, the remainder to be divided *pro rata* between the mines whose tin was purchased, at so much in the pound. This, it is considered, will combine both a good business at the works, and an extra profit to the miner.

MINING IN WALES.—The directors of the Mid-Wales Lead Mining Company have just received from their manager (Capt. John Kitch) intelligence that an important change has taken place in the lode in the adit, indicating that the rich deposit of ore seen above is being rapidly approached. Owing to the numerous applications for shares the list is closed in a few days. The abridged prospectus appears in another column.

GOLD MINING IN ITALY.—The new hoisting apparatus at the Pestarena Mines being nearly completed, there is every reason to expect a considerable increase upon the present profitable monthly returns of gold. The lode in the bottom of Peschiera continues to be worth 1000 per fathom, and an important improvement has taken place in the Cavetta lode, in the Carni Mine, the lode and the stoves being now worth 8 to 10 tons of ore per fathom, yielding an average of 1 oz. of gold per ton. It is satisfactory to find that all the ore from Aquavite and Peschiera treated by the small native mills is yielding an average of 2 ozs. of gold per ton.

HAYTIAN ESTATES COFFEE AND GENERAL PLANTATION COMPANY.—The directors have just completed the contract, referred to in the Journal of June 29, for the cutting and sale of timber on the company's estates in Hayti, by which alone they expect to realise upwards of 10 per cent. without the outlay of a shilling. Should the company be equally successful in the letting of their several mines, and realisation of their crops of coffee, cotton, tobacco, and spices, this undertaking promises to be one of the best offered to the public for some years, the soundness of which is pretty well assured by the fact of its having been brought out in defiance of the recent panic.

THE NATIONAL BANK.—The operations of this institution continue to progress most satisfactorily, as is evidenced by the report which the directors have just issued. It is shown that the net profits for the past half-year, ending June 30 (after writing off all bad and providing for all doubtful debts), amounts to no less than 114,336 $\frac{1}{2}$, deducting 12,998 $\frac{1}{2}$ for rebate of interest on bills not due, leaves the net amount 101,338 $\frac{1}{2}$, which, added to the rest or undivided profits, at the end of December, makes a total of 661,592 $\frac{1}{2}$. From this has to be deducted the half-yearly dividend (8 per cent. per annum), 60,000 $\frac{1}{2}$, and extra dividend (16s. per share), 40,000 $\frac{1}{2}$, leaving the amount of rest on June 30, 561,592 $\frac{1}{2}$. Since that date, the usual dividend at the rate of 8 per cent. per annum on the paid-up capital, and the usual dividend of 16s. per share, have been declared. Relative to the account of the Bank of Hindostan, China, and Japan, it is satisfactory to find that the liquidation of that company proceeds satisfactorily, and that a reduction of nearly a half million sterling has been made on its liabilities to the National Bank in the course of the half-year, its total engagements to the bank on June 30, including interest, being reduced to 381,553 $\frac{1}{2}$.—this result is confirmatory of the opinion expressed by the directors respecting this account in the report presented to the shareholders at the annual meeting in January. The subscribed capital of the National Bank is 2,500,000 $\frac{1}{2}$, and the paid-up capital 1,500,000 $\frac{1}{2}$.

SLOW-BURNING GUNPOWDER.—Some time since reference was made in the Journal to a mode of manufacturing gunpowder, patented by Mr. G. A. NEUMAYER, a Saxon, and with a view to perfect the invention he has since applied for another patent, according to which he proposes to mix about 72 parts by weight of saltpetre with about 18 parts by weight of charcoal; and to these he adds about 10 parts by weight of flowers of sulphur. These ingredients are placed in a closed cylinder of wood, copper, or other suitable material, through which passes a revolving shaft, having a number of radial arms, and which may be arranged in any suitable manner. Together with these ingredients he introduces water in the proportion of about 40 parts by weight to about 100 parts by weight of the compound, and then subjects the compound to the incorporating action of the revolving arms for about 15 minutes, after which the compound is removed from the cylinder and dried, without being subjected to the operation of granulation, and it is then fit for use. Such powder, when burnt in an unconfined space, will leave a considerable residue, but it is claimed that when ignited in a confined space it will leave considerably less residue than ordinary gunpowder.

NEW FUEL—UTILISATION OF SMALL COAL.—The proposal to turn small coal to commercial advantage is by no means new, but, as a correspondent very truly remarked, although mere pressure, tar, and gruel have each been tried to effect the consolidation of the mass, neither have proved successful. The difficulties, however, appear to have been altogether overcome by Mr. ROBERTS, of Cranmer-road, Brighton, who proposes to make the small coal into a concrete mass by the addition of pulverised lime and water. He finds the best proportions for the lime to be from one-tenth to one-twelfth the quantity by measure of lime, well slacked with water, will be amply sufficient to form the coal into a hard concrete, but somewhat porous mass. The materials, when mixed, may be placed in wooden, earthen, metal, or other moulds, until the concrete becomes firm enough to be turned out to dry, for which purpose it will only be necessary to expose it to the air or wind for a few hours. The block will thus, in a day or two (without the application of any artificial heat), become hard enough to admit of moderately rough handling, and will burn with clearness and steadiness in any common grate or fire-place. Common lime answers the purpose as well as any of the stronger and more expensive cements.

THE ABERMAM IRONWORKS (Limited).—Mr. Mark Markwick, writing to the Times, says:—"I purchased the estate, works, and minerals, together with all the plant, live and dead stock, including the ore raised to surface—in fact, including everything upon the estate—for 250,000 $\frac{1}{2}$. I then sold the estate to the Credit Foncier Company for 300,000 $\frac{1}{2}$, also on written contract, they making a Mr. Stansby their nominee in their agreement of purchase, and paid by check a deposit of 5000 $\frac{1}{2}$ into the Imperial Bank in the names of our respective solicitors. I have not yet received one penny from the company, neither have I any position with the parties at issue in Vice-Chancellor Malins's Court."

ANGLO-DANUBIAN STEAM NAVIGATION AND COLLIERY COMPANY (Limited).—Creditors are required to send the particulars of their claims to Mr. William Quilter, the official liquidator, by September 2, November 2 having been appointed by the Master of the Rolls for adjudicating upon them.

COAL MARKET.—The fresh arrivals this week only numbered 47 ships. The supply of household coal has been inadequate to the demand, and the market is entirely cleared, prices quoting an advance of from 6d. to 1s. per ton. In Hartley's, no alteration. Tees Wallsend, 20s. 6d. per ton; Hetton Wallsend, 20s. 6d. per ton; West Hartley, 17s. 6d. per ton; Hasting's Hartley, 17s. 6d. per ton. Unsold, nil; 50 ships at sea.

THE COPPER TRADE.—Messrs. Vivian, Younger, and Bond (July 19) write:—"During the week 500 to 600 tons of Chili bars have been sold, at 64 $\frac{1}{2}$ per ton, and these sales were followed yesterday by further sales of 400 tons, at 67 $\frac{1}{2}$ 10s. This is the lowest price ever current here for this description of copper, of 96 per cent., and shows a heavy loss on last quotations from Valparaiso. The tone of the market, however, is evidently towards lower prices. Few believe in even present rates being maintained, and a rise is generally looked upon as most unlikely, except at some distant period. Consumption, both here and elsewhere, is at a low ebb, whilst production does not correspondingly decrease. Indeed, advices by the last mail from Chili show the expectation of a full average export for the first half of this year, whilst generally there is no appreciable falling off in supply elsewhere. The Monte Mine, of Australia, which it was expected would stop working, in consequence of a lawsuit, will, it is understood, continue its usual large production. Last year exhibited, at one time, what were considered extremely low prices for copper, nevertheless, in 1867, we have gone still lower. Australian copper, however, is 2s. to 4s. per ton higher than the minimum rates of last year, although stocks in London are larger by about 3000 tons. This is principally due to a large proportion which was bought at

high prices having been firmly held, thereby causing the current demand to fall upon a much smaller portion of the stock than usual. Two cargoes of regulus have been sold, at 14s. per unit—one Swansea, spot, and the other to arrive.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JULY 19, 1867.

COPPER.				IRON.			
Best selected, p. ton	79	0	0	Bars Welsh, in London	6	10	0
Tough cake and tile	75	0	0	Ditto, to arrive	6	10	0
Sheathing & sheets	79	10	0	Nail rods	7	0	0
Bolts	88	0	0	Staffs, in London	7	10	0
Bottoms	88	0	0	Bars ditto	7	10	0
Old (Exchange)	72	0	0	Hoops ditto	8	0	0
Burra Burra	84	0	0	Sheets, single	9	5	0
Wire	per lb.	0	0	Pig No. 1, in Wales	3	15	0
Tubes	per lb.	0	0	Refined metal, ditto	4	0	0
BRASS.				Bars, common ditto	5	10	0
Sheets	per lb.	9d.	9 $\frac{1}{2}$ d.	Do. mch. Tyneor Tees	6	10	0
Wire	per lb.	8 $\frac{1}{2}$ d.	9 $\frac{1}{2}$ d.	Do., railway, in Wales	5	10	0
Tubes	per lb.	10 $\frac{1}{2}$ d.	11 $\frac{1}{2}$ d.	Do., Swed. in London	10	5	0
Yellow Metal Sheath, p. lb.	7d.	7 $\frac{1}{2}$ d.		To arrive	10	5	0
Sheets	per ton.	6 $\frac{1}{2}$ d.	7d.	Pig, No. 1, in Clyde	2	14	0
SPELTER.				Do. (o.b. Tyneor Tees)	2	6	0
Foreign on the spot	£21	0	0	Do. Nos. 3, 4, o.b. do.	6	2	7
" to arrive	21	0	0	Railway chairs	5	10	0
ZINC.				" spikes	11	0	0
In sheets	£25	10	0	Indian Charcoal Pigs, in London	7	0	0
TIN.				STEEL.			
English blocks	91	0	0	Swed., in kegs (rolled)	14	5	0
Do., bars (in barrels)	92	0	0	(hammered)	15	0	0
Do., refined	94	0	0	Ditto, in faggots	16	0	0
Banca	93	0	0	English, spring	17	0	0
Straits	87	0	0	QUICKSILVER (p. bottle)			
TIN-PLATES.				LEAD.			
IC Charcoal, 1st qua.	1	8	0	English Pig, com.	19	15	0
IX Ditto, 1st quality	14	0	16	Ditto, L.B.	20	0	0
IC Ditto, 2d quality	1	6	0	Ditto, W.B.	21	15	0
IX Ditto, 2d quality	12	0	14	Ditto, ordinary soft	20	0	0
IC Coke	1	4	0	Ditto, sheet	20	15	0
IX Ditto	1	0	12	Ditto, red lead	21	0	0
Canada plates, p. ton	13	0	0	Ditto, white	27	0	0
Ditto, at works	12	0	0	Ditto, patent shot	23	0	0
				Spanish	19	10	0

* At the works, 1s. to 1s. 6d. per box less.

† A Derbyshire quotation: not generally known in the London market.

REMARKS.—We seem now to have arrived at a position almost without parallel in the history of the Metal Trade, certainly not within the recollection of the present generation. Prices of metals are generally low, some of them being even lower than has been known for many years past; money is remarkably easy, and every inducement in a monetary way is offered for facilitating operations, and yet business appears to become increasingly dull, and there is little or no disposition to enter into transactions. The revival which was anticipated would take place in trade ere this is still in the future, nor does there at present appear any symptoms of its approach. It is very discouraging thus to see month after month pass away without any improvement taking place in the metal market, and we much fear that now we must not expect to see any great revival in the trade before the autumn, when, however, we trust that commercial affairs generally will take a turn for the better, and the long-anticipated improvement in business arise. At present orders both for shipment and consumption are very scarce, the markets abroad seeming to have participated in the want of animation which has characterised our own, and consumers only just ordering from hand to month, many works being able to continue in operation only a portion of the week, and hardly any being now in full work. The visit of illustrious foreigners, although causing considerable activity in some quarters, does not, unfortunately, affect our commerce so as to produce that favourable change so very desirable.

COPPER.—During the week advices have been received from Chili stating the charters for the fortnight to have amounted to 1430 tons of copper, of which 950 tons are slab, and the remainder ore and regulus. No alteration has taken place in the market in consequence of these advices, which still remains very flat and lifeless. Business has been done in sheet at 80 $\frac{1}{2}$, while tough cake may now be quoted at 75 $\frac{1}{2}$ to 77 $\frac{1}{2}$. So deplorable a state of the market for this metal has not been known for many years.

IRON.—In Staffordshire the general result of the quarterly meetings is rather favourable. The accounts from all sources confirm the previous belief that stocks are very low. Orders given out are wanted to be executed promptly, which proves that they are delayed to the utmost point of time. The demand from the United States continues small, and it is feared that the artificially high prices which protective duties and an inconvertible currency occasion, prevent capitalists from venturing into new enterprises, or incurring further obligations. There is a steady continuance of orders, though of no great amount, from the Continent. In Welsh, although many marks of the quietude which has so long prevailed in the trade are still visible, the prospects are decidedly more cheerful than they have been for some time past, and the opinion prevails that the trade is on the eve of a general improvement, though it may be gradual. This belief is strengthened from the fact of home consumers' stocks having become so low that they are compelled to come into the market, and cannot avoid doing some business, although it may not be to any great extent. There are also contracts for a considerable amount in the market for the East Indies, and there is a probability of a large quantity of rails being required for Russia, America, and India. In Swedish iron the demand is not quite so active. In Scotch pig-iron there has been little fluctuation during the week, the price remaining at 53s. cash.

LEAD.—Business is by no means active, but prices remain without alteration.

TIN.—In foreign, transactions continue to take place in Straits at 87 $\frac{1}{2}$ 10s. cash, and though the quantity sold is not by any means large, the price continues firm, with more disposition to advance than decline. English is still dull.

SPELTER has rather improved during the week, and sales of a pretty considerable amount have taken place at 20 $\frac{1}{2}$ 17s. 6d., since which the price has advanced to 21 $\frac{1}{2}$ on the spot, at which the market remains firm.

TIN-PLATES.—There is rather a better enquiry existing, and prices firmer. **STEEL** and **QUICKSILVER** in limited demand.

BIRMINGHAM, JULY 19.—Bylands' "Iron Trade Circular" states: A quiet but steady business doing. Pigs on fair sale. Prices firm. Builders' iron and merchants' iron in more demand.

The settlement of the fortnightly account took place in the MINING SHARE MARKET on Tuesday, and was again heavy, but the business transactions since have not been of any moment, and prices are flatter, with very few exceptions. Among the few mines dealt in are Prince of Wales, Wheal Chiverton, Chiverton Moor, Marke Valley, Chon. tales, Great Laxey, Great Wheal Vor, Wheal Seton, South Condurvor, North Crofty, and a few others. The standard for copper ore declined 1 $\frac{1}{2}$ 5s. this week. Chontales opened 5 buyers, and then declined to 4 $\frac{1}{2}$, and after various fluctuations, leave off 4 $\frac{1}{2}$ to 4 $\frac{1}{4}$; the advices by the last mail are considered the most satisfactory that have been yet received. The mines are opening out well, and the Consuelo promises to be all that was predicted. The ends in the several levels driving east towards the rich "nail," are reported to be very rich, and yielding 4 ozs. of gold to the ton of stuff. The San Antonio and San Domingo Mines are also reported to be opening out well. In reference to the machinery, the large wheel at San Domingo, with eight arrastres attached, is in complete working order; the Estella Mill, with six arrastres, is nearly completed. The heavy machinery from England has been transported to those points at the mines where it will be erected. A large wheel, with eight arrastres attached, is in course of construction at the Pavon, where there is ample water-power for any amount of machinery all the year round. This wheel, with a continuous line of tramway from San Domingo to Pavon, is under contract to be completed by December next. The works, therefore, are altogether progressing towards attaining appliances for grinding on a large scale, and there is already

abundant stuff available to keep the mills well supplied, and in a month or two large and regular remittances may be looked for.

Prince of Wales shares have been very fluctuating, and largely dealt in, leaving off, after being 64s., buyers, on Wednesday, at 61s.; the ends are now worth 60 $\frac{1}{2}$ per fathom in the aggregate, showing a further falling off since last week of 10 $\frac{1}{2}$. More water, however, is issuing from the cross-cut to the north lode. West Wales, of Wales, 10s. to 15s.; Chiverton Moor, 5 $\frac{1}{2}$ to 5 $\frac{1}{4}$; Clifford Amalgamated, 7 $\frac{1}{2}$ to 7 $\frac{1}{4}$; East Basset, 18 to 20; East Caradon, 5 $\frac{1}{2}$ to 6 $\frac{1}{2}$; East counts showed a credit balance of 65 $\frac{1}{2}$ 16s. 4d. The mine has lately been worked on a limited scale, and has about met costs; but from improved prospects, and the advance in tin, the agent recommends operations, which would result, he considers, in profit to the shareholders. West Drake Walls, 5s. to 7s. 6d.; at the meeting the accounts showed 1169 $\frac{1}{2}$ 19s. 6d. in hand. The company has purchased a 40-in. engine, which is to be erected forthwith. The engine-shaft is now down 11 $\frac{1}{2}$ fms. from surface, on the Prince of Wales lode, and in ground favourable for minerals. A large branch, which came in the shaft from the north some time since, continues to produce occasional stones of tin and copper ores, which is regarded as very favourable for ore in depth. East Lovell, 6 $\frac{1}{2}$ to 6 $\frac{1}{4}$; East Russell, 14 to 14 $\frac{1}{2}$; Wheal Buller, 20 to 25; the 80 east is worth 35 $\frac{1}{2}$ per fathom; leave off 4 $\frac{1}{2}$ to 5; the lode in the 20 north is worth 7 cwt. per fm., and winze below the 10 south, 10 cwt. per fathom. East Wheal Grenville, 1 $\frac{1}{2}$ to 2; Frontino and Bolivia, 9s. to 10s.; Great Laxey, 16s. to 17 $\frac{1}{2}$; Great North Downs, 3 $\frac{1}{2}$ to 3 $\frac{1}{4}$; Herodsfoot, 33 to 35; Marke Valley, 4 $\frac{1}{2}$ to 4 $\frac{1}{4}$; North Crofty, 3 $\frac{1}{2}$ to 3 $\frac{1}{4}$; North Treskerby, 17s. 6d. to 22s. 6d.; Prosper United, 2 to 2 $\frac{1}{2}$; Providence Mines, 28 to 30; South Condurvor, 11s. to 13s.; South Frances, 27 $\frac{1}{2}$ to 32 $\frac{1}{2}$; Tincroft, 13 $\frac{1}{2}$ to 14; West Chiverton, 66 to 68; Wheal Basset, 65 to 70; Wheal Chiverton, 7 to 7 $\frac{1}{2}$; Wheal Crebor, 6s. to 8s.; Wheal Grenville, 15s. to 20s.; Wheal Seton, 110 to 115; Wheal Trelawny, 8 to 9.

The Market for Mine Shares on the Stock Exchange during the week has been moderately active. Don Pedro shares have fallen about 10s., but close firm. Chontales fell to 4 $\frac{1}{2}$ prem., but have also rallied; it is known that the lode has been cut rich in Consuelo, and very large remittances are expected by the next mail. Taquari Gold, closing price, 4 $\frac{1}{2}$ prem.; St. John del Rey, 58, 60; Don Pedro, 21, 3 $\frac{1}{2}$ prem.; Anglo-Brazilian, 3 $\frac{1}{2}$ prem.; Pestarena, 4 $\frac{1}{2}$ prem.; Anglo-Italian, 4 $\frac{1}{2}$ prem.; Chontales, 4 $\frac{1}{2}$ prem. United Mexican in demand on last advices at 1 $\frac{1}{2}$ to 2 $\frac{1}{2}$; Rossa Grande, 9s. to 11s.; Frontino and Bolivia, 9s. to 11s.; Quebrada, 1 to 1 $\frac{1}{2}$; Yudanamutana, 1 $\frac{1}{2}$ to 1 $\frac{1}{4}$ prem.; Port Phillip, 1 to 1 $\frac{1}{2}$. In English mines a good business has been done. Chiverton Moor shares have risen to 5 $\frac{1}{2}$ 5 $\frac{1}{4}$. Chiverton shares are in demand at 7 $\frac{1}{2}$ to 7 $\frac{1}{4}$; West Chiverton, 66 to 68. Prince of Wales shares close at 59s. to 61s. Westminster Mine is very favourably reported on; the lode in the 70 east has improved to 2 $\frac{1}{2}$ tons per fathom, and the lode in the eastern shaft is valued at 1 ton per fm. The 70-inch engine was set to work on Saturday last, and is one of the most perfect pieces of machinery in Wales. The water can now be kept with great ease. North Crofty shares are firmer, at 3 $\frac{1}{2}$ to 3 $\frac{1}{4}$.

IRISH MINE SHARE MARKET.—Dealings in all shares and stocks during the last fortnight have been generally of a limited character on our Stock Exchange, there being but very little disposition shown on the part of the public, or habitual speculators, to buy at the recently current quotations, and a great majority of holders preferring to do no business if it cannot be effected without a reduction. Any transactions, therefore, particularly in mining shares, are only exceptional, and of insignificant amount. The few which have taken place have been confined to small lots of Wicklow Copper, which a few days ago have been sold at 20 $\frac{1}{2}$ 10s., and have just been done at 20 $\frac{1}{2}$ per share (21 10s. paid), giving a fall of 1 $\frac{1}{2}$ for the two weeks now ending. Mining Company of Ireland shares (7 $\frac{1}{2}$ paid), which since the 15th inst. are quoted ex-dividend, have been much steadier, having lost only 2s. 6d. of the 5s. per share advance recorded on the 6th inst., and been sold in one or two instances to a small extent, and leaving off firm. Connors are not so well held, and consequently, suffered a further decline from 15s. to 14s. 6d.; and Caryl's, of which public opinion is very fluctuating, have been bought at 2s. 6d. The present prevailing dulness in the Stock and Share Markets offers an excellent opportunity to purchase either for investment or for speculation only. As a relieving companion-picture to the sad accounts of the temporary distress in the West of Ireland, it would do the hearts of our readers good to see the splendid promise of a most abundant harvest of every description of grain, grass, or root. The potatoes, the staple food of our working classes, are abundant and healthy everywhere, and already for sale at 1s. per 14 lb. (or stone), with every prospect of obtaining them in less than a month at half that price. The country was parched by the late dry weather, but St. Swithin's day in Ireland was ushered in with a deluge of rain, which has since been followed by most refreshing showers, enriching our farmers by thousands of pounds daily.

The ESPINOSA SILVER MINING COMPANY, with a capital of 100,000 $\frac{1}{2}$ in shares of 5 $\frac{1}{2}$ each, has issued its prospectus, which states the object of the undertaking to be the purchase and working of the silver mines of Espinosa, Salaguna, and Demasias, situated at San Antonio, Lower California, Mexico. They are held under three grants in perpetuity from the Government, extending lengthwise about 3800 feet, along several ridges of silver ore, of which three have been proved. Messrs. Townshend, Wood, and Co., of Swansea, state that Mr. Thomas Price, their agent in San Francisco, represents that the mine is of immense value, surpassing anything he knows; they have themselves such a high opinion of the mine, that they are prepared to take a very large interest. The price to be paid for the mines is 110,000 $\frac{1}{2}$, of which 42,000 $\frac{1}{2}$ is to be in cash, 20,000 $\frac{1}{2}$ in paid-up shares of the company, and the remainder by half the net realised profits as they accrue. The mines are so situated that they will be drained without pumping, and, according to the assurances of Mr. Roberts, the mineral engineer, writing from the mines, it is estimated that 5000 $\frac{1}{2}$ will be ample for the erection of the machinery for concentrating the ore, and for perfecting the arrangements for shipping at Vantana Bay; and it is proposed, in addition, to provide 5000 $\frac{1}{2}$, which it is thought will be sufficient for working expenses. It is anticipated that one moiety of the first year's profits will more than provide for the balance to be paid to the vendors; and the most carefully prepared estimates seem to warrant the belief that the mine will yield such profits as will enable the company to give dividends to the shareholders of cent. per cent. per annum on their capital invested. The direction is a particularly influential one—Mr. Dillwyn, M.P., being at its head; and if only one-half of the anticipations of the directors be realised, the undertaking cannot fail to be highly profitable to all concerned.

The CENTRAL AMERICAN ASSOCIATION has decided to issue additional debentures to the amount of not more than 10,000 $\frac{1}{2}$, to rank with the other debentures, and bear the same rate of interest, and the directors have fixed Aug. 1 as the last day for the shareholders to apply for them. Three remittances, amounting together to 7574 ozs. of gold, have already been received, and should they continue, as anticipated, the debentures will be speedily paid off. The resolution authorising the issue of the debentures will be found, together with the report of the meeting, in another column.

At Truro Ticketing, on Thursday, 4139 tons of ore were sold, realising 16,932 $\frac{1}{2}$. The particulars of the sale were:—Average standard, 109 $\frac{1}{2}$ 17s.; average produce, 6 $\frac{1}{2}$; average price per ton, 4 $\frac{1}{2}$ 2s.; quantity of fine copper, 257 tons 14 cwt. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
June 20	3689	1114	19	0	6 $\frac{1}{2}$	£4 12 0
" 27	1692	105	17	0	7 $\frac{1}{2}$	5 5 0
July 4	2365	105	10	0	7 $\frac{1}{2}$	5 7 0
" 11	1457	109	15	0	6 $\frac{1}{2}$	3 19 0
" 18	4139	109	17	0	6 $\frac{1}{2}$	4 2 0

Compared with last week's sale, the decline has been in the standard 1 $\frac{1}{2}$ 5s., and in the price per ton of ore about 1s. 8d. Compared with the corresponding sale of last month, there has been about a similar decline.

At New Pembroke Mine meeting, on July 9, the accounts, made up to the end of April, showed a debit balance of 664 $\frac{1}{2}$ 13s. 10d. A call of 2s. per

The agents reported that the prospects of the mine were quite equal to what they were at the last meeting, and should they succeed in making a good discovery, they would be able to settle the mine on a permanent basis. The agents also reported that the mine was in a good position, and that the mine was in a good position, and that the mine was in a good position.

At Par Consols Mine meeting, on July 9 (Mr. E. J. Treffry in the chair), the accounts for the quarter ending April showed a debit balance of 36751. A call of 5s. per share was made. It was stated that since the last meeting the mine had been served upon the Earl of Mount Edgumbe and Messrs. Carthew for drawing up materials and getting their lands, and also on the representative of the late Mr. Richard Rogers in respect of the western part of the mine.

At Trethwaite Mine meeting, on July 15, the accounts showed a debit balance of 17491. 15s. 11d. Capt. Foot and Mr. E. J. Treffry, with regard to future operations, we do not see that the mine is in a position to be worked on any advantage, as it would be impossible to see the mine deeper before winter sets in again; in fact, it is much to be regretted, as from the fine strong lode down in the bottom of the mine, the level of the ore ground laid out at this level south as far as possible, shall take away the ore ground. Harris's shaft is a very important point to us, as it communicates with the rise in the 50, and then to commence sinking, it is much to be regretted, as from the fine strong lode down in the bottom of the mine, the level of the ore ground laid out at this level south as far as possible, shall take away the ore ground.

At the Mineral Rights Association meeting, on Thursday (Mr. Parke Pittar in the chair), convened by requisition for the purpose of ascertaining the wishes of shareholders as to the desirability of winding up the company, an adjournment was agreed upon, in order that some amicable arrangements might in the meantime be adopted.

At the Otes Copper Mining Company meeting, to be held on July 30, a resolution will be proposed to authorise the directors to borrow a sum not exceeding 10,000, on the security of the whole of the property of the company, on the terms of their circular, or such amended terms as may then be agreed to.

At the Scottish Australian Investment Company meeting, to be held on Friday, the report of the directors, to be submitted, states that the gross profits realised in the colony during the half-year are 27,785. 5s. 10d., of which 2500, are placed in suspense. To the balance of 25,285. 5s. 10d. has to be added the sum of 5151. 8s. received in London for commission and transfer fees, &c., making a profit from the ordinary sources of the company's revenue—rents, interest, and commission. The directors will propose a dividend, payable on the ordinary stock of the company, 300,000, at the rate of 10 per cent. per annum, less income tax, which will require 15,000, and leave to be carried to the credit of the reserved fund 1371. 17s. 8d., which will then amount to 15151. 3s. 8d.

The Bank of England return for the week ending on Wednesday evening was favourable rather than otherwise. In the ISSUE DEPARTMENT there is shown an increase in the "notes issued" of 169,551, represented by a corresponding increase in the coin and bullion on the other side of the account. In the BANKING DEPARTMENT there is shown a decrease in the "public deposits" of 502,961, and in the "other deposits" of 327,024, together 830,985; an increase in the "seven day and other bills" of 18,102, and in the "rest" of 35,921, together 54,024, and deducting from this the decrease of 75,024 in the "other securities" on the asset side of the account, there remained a decrease in the total reserve of 8551.

On the Stock Exchange a limited amount of business has been transacted in Mining Shares during the week. The following prices were officially recorded in British Mining Shares:—Great Wheal Vor, 17; East Carn Breca, 2; East Caradon, 5.—In Colonial and Foreign Mining Shares the prices were:—Port Phillip, 1, 15-16ths, 1; Yuda-namutana, 1; Chontales, 4, 4, 4, 4 3-16ths, 4; Don Pedro North del Rey, 3, 3, 3, 3 3-16ths, 3, 2, 2, 2, 2 1-16th, 2; St. John del Rey, 5, 5, 5, 5 3-16ths, 5, 2, 2, 2, 2 1-16th, 2; Pestarena, 2, 2, 2, 2 1-16th, 2.

SAFETY-LAMPS.—According to the present ordinary construction of miners' safety-lamps the glass is held in the lamp by means of a plain or flat metal ring, which fits into a screw on the lower part of the frame of the lamp, and bears directly against the bottom of the glass, no allowance being made by for expansion of the glass, and hence the frequent fracture of lamp-glasses. As it frequently happens, moreover, that the glass and ring do not fit together accurately, an inlet of foul air often takes place at that part. The ring is constantly liable to become unscrewed by simply turning the glass from the outside, the friction of the glass against the ring carrying it round with it. To obviate these inconveniences, Mr. Evan Thomas, of Aberdare, proposes to form an annular groove of the surface of the ring, and cause the glass to fit into such annular groove; and in order to prevent the possibility of the ingress of foul air into the lamp at the top and bottom of the glass, and to allow for expansion, he introduces at those parts an elastic packing ring or washer of vulcanised India rubber, and at the bottom of the glass he interposes a metal ring or washer between the India rubber and the annular groove of the ring, this metal washer being maintained in its place by a projection thereon, fitting into a hole or recess in the screwed portion of the lamp; by this means the loosening of the screwing rings by turning the glass is prevented.

GLUE FOR METALS.—A good glue for metals may be made by mixing with sixteen parts of melted glue one part gum ammoniac, and then add one part of saltpetre acid.

GREEN SLATES.

GREEN SLATES OF ANY SIZE, and of the CHOICEST COLOUR and QUALITY, can now be obtained from the DOROTHEA WEST SLATE COMPANY (LIMITED), CARNARVON. The "CHAMBER CROSS HOTEL," "STAR AND GARTER HOTEL" (Richmond), "LONDON BRIDGE HOTEL," and many other public buildings, are covered with these elegant slates in regular succession. Orders will be executed in regular succession. Apply to Mr. THOMAS HARVEY, General Manager, 9, Segontium-terrace, Carnarvon, or 33, King-street, Cheapside, London.

FIVE TO SIX, SEVEN, EIGHT, and up to TEN PER CENT. INTEREST PER ANNUM.—Government Funds; Home and Foreign Stocks, Bonds and Debentures; Railway, Ordinary and Preference Shares and Stocks; Colonial Government Securities; Indian Railway Debentures, Shares, and Stocks; Colonial Government Securities; American Government Securities; Joint-Stock Banks; Home, Colonial, and Foreign Mining; Miscellaneous. A MONTHLY COMMERCIAL REVIEW, 1st. Annual, price 6d. Dealers at net prices, free of commission. Cash transactions, to any extent, and without delay. Messrs. WALTER HARRISON AND CO., 75, Old Broad-street, London, E.C.

MR. D. STICKLAND, M.E., having had upwards of 40 years' mining experience in Cornwall, several years of which he has had the entire management of mines therein, enables him to GIVE GOOD ADVICE thereon. Mining, Railway, and other Shares bought, sold, or exchanged. Shares for sale in mines and quarries that will pay 15 to 20 per cent. per annum. Office, 5, Finsbury-street, London, E.C.

JOHN HOCKING AND SON, ENGINEERS, REDRUTH, CALL THE ATTENTION OF COLLIERY PROPRIETORS and others to the present favourable opportunities for the purchase of secondhand CORNISH PUMPING ENGINES and BOILERS at cheap rates. Plans, valuations, removal, &c., of every description of mining machinery undertaken. FOR SALE, ONE 36 in. PUMPING ENGINE, also an excellent CRUSHER.

SHAREHOLDERS IN PUBLIC COMPANIES desirous of avoiding calls and further responsibility will find purchasers on applying to Messrs. BARRETT AND CO., 78, LOMBARD STREET, CITY, and No. 20, SPRING GARDENS, CHANCERY CROSS. Stocks, shares, mining, and other miscellaneous securities bought and sold. Investment Review on application. Cash advances made.

NOTICE.—CAPT. S. M. RIDGE, of LLANIDLOES, MONTGOMERYSHIRE (late manager of the Brynastig and Cwm Ffion Collieries in Shropshire and Wales), is NOW OPEN to INSPECT and take up any LEAD MINE in either of those localities that may be confided to his care, having had better than 30 years' experience in lead mining, as miner and agent.—Address, Capt. S. M. RIDGE, Llanidloes, Montgomeryshire.

BRITISH, COLONIAL, AND FOREIGN PATENTS REGISTRATIONS, DRAWINGS, &c. Mr. MICHAEL HENRY, Inventors' Adviser, and the "Defence of the Patent Law." Inventors advised in relation to Patents and Inventive and Industrial Matters. Printed information sent free by post. Specifications drawn and revised. Translations of Catalogues, Cases, and Opinions drawn. Paris Exhibition. Mr. HENRY has had special experience in technical French, and in French Manufacturing and Commercial Matters. Office, 65, Fleet-street, E.C., London, corner of and entrance in Whitefriars-street.

Sale of Machinery.

CONTRACT DEPARTMENT, ADMIRALTY, SOMERSET HOUSE.

THE COMMISSIONERS for Executing the Office of Lord High Admiral of the United Kingdom of Great Britain and Ireland do hereby give notice that on TUESDAY, the 23d inst., at Two o'clock, they will be READY TO RECEIVE sealed TENDERS for the PURCHASE of several lots of MACHINERY taken from Her Majesty's ships Foxhound, Flying Fish, Tartar, Etna, and Trusty, lying in Woolwich Dockyard. Catalogues and conditions of sale may be obtained here, and at Her Majesty's Dockyards at Deptford and Woolwich.

Persons wishing to become purchasers must apply to the Commodore Superintendent of Her Majesty's Dockyards at Woolwich for notes of admission to view the same. No tender will be received after Two o'clock on the day of treaty, nor will any be noticed unless the party attends, or an agent for him duly authorised in writing, to make a deposit of 25 per cent. on the amount of the tender. Every tender must be addressed to the Secretary of the Admiralty, and bear in the left-hand corner the words "Tender for Machinery," and must also be delivered at the Department of the Storekeeper-General, Admiralty, Somerset House.

By order, ANTONIO BRADY, Registrar of Contracts and Public Securities. Contract Department, Admiralty, Somerset House, 6th July, 1867.

India Office—Contract for Iron.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA IN COUNCIL.

NOTICE IS HEREBY GIVEN that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY on or before Monday, the 29th instant, to RECEIVE PROPOSALS, in writing, sealed up, from such persons as may be willing to SUPPLY—BEST BRITISH IRON.

And that the conditions of the said contract may be had on application, addressed to the Director-General of Stores, India Office, Cannon-row, Westminster, where the proposals are to be left any time before Two o'clock P.M. of the said 29th instant, after which hour no tender will be received.

GERALD C. TALBOT, Director-General.

India Office, July 19, 1867.

In Chancery.

PURSUANT to a Decree of the High Court of Chancery, made in a Cause, "JOHN MILES and Others against SYDNEY TUDOR EVANS," the CREDITORS of the estate of John Miles, late of Pontymyrr, in the county of Monmouth, Ironfounder, who died in or about the month of April, 1867, are on or before the 1st day of September, 1867, to SEND by post, prepaid, to Mr. Thomas Morgan Llewellyn, of Newport, in the county of Monmouth, the solicitor of the said Sydney Tudor Evans, the administrator of the personal estate and effects of the said John Miles, deceased, their CHRISTIAN and SURNAMES, ADDRESSES, and DESCRIPTIONS, the full PARTICULARS of their CLAIMS, a STATEMENT of their ACCOUNTS, and the NATURE of the SECURITIES (if any) held by them; or, in default thereof, they will be PEREMPTORILY EXCLUDED from the BENEFIT of the said DECREE. Every creditor holding any security is to produce the same before the Vice-Chancellor Sir Richard Malins, at his Chambers, situated No. 3, Stone-buildings, Lincoln's Inn, Middlesex, on Tuesday, the 5th day of November, 1867, at Twelve o'clock in the afternoon, being the time appointed for adjudicating on the claims.

J. A. BUCKLEY, Chief Clerk. THOMAS WHITE and SONS, 11, Bedford-row, London (Agents for Thomas Morgan Llewellyn, Newport, Monmouthshire, solicitor for the said administrator).

Dated this 15th day of July, 1867.

TO ENGINEERS.—WANTED, for a large IRONWORKS in SOUTH WALES, a RESIDENT ENGINEER.—Apply by letter, stating qualifications and salary, to "J. R.," Messrs. Pottle and Sons, No. 14, Royal Exchange, London.

TO LANDED PROPRIETORS AND MINING COMPANIES.—WANTED, by a Person 34 years of age, of gentlemanly address, a SITUATION, either home or abroad. Is thoroughly conversant with accounts, is a practical mapper, dialler, and surveyor, and has a good practical knowledge of mining. First-class references.—Address, "B. B.," Post-office, Gunnislake, Cornwall.

TO COLLIERY OWNERS.—WANTED, a SITUATION as COLLIERY MANAGER. The Advertiser is near forty years of age, has been brought up practically to the management of collieries in the North of England, and has had considerable experience in South Wales, in developing coal fields, in the direction of underground workings, and in coke works. References from present employers, and from numerous colliery viewlers in the North of England. Further particulars may be obtained by addressing "C. M.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

COLLIERY PROPERTY, NORTH WALES.—MONEY. WANTED, a sum of £5000 to £10,000 upon FIRST MORTGAGE of good FIREHOLD and LEASEHOLD COLLIERY in ACTIVE OPERATION, and upon which a sum of £20,000 and upwards has been expended in developing the mines. The money can be repaid by instalments, spread over a period of three to four years, or at a fixed period. Address "A. B.," care of Mr. Marshall, law stationer, 8, Brownlow-street, Holborn, London.

WANTED.—A RE-ENGAGEMENT as COLLIERY MANAGER. Many years' experience and first-class testimonials. No objection to go abroad.—Apply to "H. M.," MINING JOURNAL Office, 26, Fleet-street, London.

WANTED, the MINING JOURNAL, to be posted on Monday evening, at HALF-PRICE (pre-payment). Address, "R.," 3, Wilton-place, Exeter.

A MINING ENGINEER, recently returned from BRAZIL, is DESIROUS of an ENGAGEMENT at HOME or ABROAD. Thoroughly conversant with gold mining, its extraction from its ores, &c. Unexceptionable references.—Address, "A. C.," MINING JOURNAL Office, 26, Fleet-street.

WEST ST. IVES.—A PERSON who WISHES to REALISE will SELL FIFTY or ONE HUNDRED SHARES in this very profitable mine.—Positive offers to "A. Z.," MINING JOURNAL Office, 26, Fleet-street.

LANFAIR GREEN AND BLUE SLATE QUARRY COMPANY (LIMITED).—Manager, T. HARVEY, Esq.—TO BE SOLD, FORTY SHARES, at £1 per share. No calls.—Address, "A. B.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

BARYTES.—FOR SALE, near WIGAN, LANCASHIRE, WORKS, with PLANT, suitable for CRUSHING and BLEACHING the above material.—For particulars, apply to Mr. WILLIAM WESTON, 3, Osborne-terrace, Southsea, Hants.

TO BE SOLD, CHEAP, a PORTABLE ENGINE of 14-horse power, double cylinder, of first-class construction, workmanship, and material. Winding gear to order. SECOND-HAND PORTABLES FOR SALE.—Apply to Messrs. BARROWS and CARMICHAEL, engineers, Danbury, Oxon.

MR. J. N. MAUGHAN, STOCK AND SHAREBROKER (Member of the Stock Exchange). No. 2, COLLINGWOOD STREET, NEWCASTLE-ON-TYNE. Transacts business in Railways, Funds, and every description of Mines; Bankers.—Messrs. Lambton and Co.

MR. J. S. MERRY, ASSAYER AND ANALYTICAL CHEMIST, SWANSEA.

MR. T. H. THOMAS, ASSAYER, &c., COPPER ORE WHARVES, SWANSEA.

ASSAY OFFICE AND LABORATORY, No. 2, CROWN CHAMBERS, CROWN COURT, THREADNEEDLE STREET. CONDUCTED BY W. T. RICKARD, F.C.S., &c. (Late MITCHELL and RICKARD). Assays and analyses of every description of mineral and other substances, manures, &c. Instructions in assaying, and the most improved methods of reducing gold, silver, and other metals. MINING PROPERTIES INSPECTED AND REPORTED ON.

MR. T. L. COTTINGHAM, MINING ENGINEER, VIEWER, AND AGENT. COLLIERIES, MINES, QUARRIES, AND MINERAL PROPERTIES INSPECTED, SURVEYED, VALUED, REPORTED ON, AND MANAGED. BORINGS, &c., CONDUCTED. OFFICES.—No. 4, WREXHAM STREET, MOLD. Agent for the National Steam Boat Insurance Company (Limited). Leases of several good Coal, Lead, and Slate Properties for sale.

MR. P. S. HAMILTON, MINING AND REAL ESTATE AGENT, AND PRACTICAL GEOLOGIST. OFFICE.—No. 72, GRANVILLE STREET, HALIFAX, NOVA SCOTIA.

N.B.—Sales and purchases of lands, quarries, and mining property negotiated upon the most advantageous terms, and with all possible dispatch. Explorations made or supervised, and reports prepared where required with the utmost care. Public attention is called to the fact that, owing to his experience as Gold Commissioner and Chief Commissioner of Mines, and as one who has been for years engaged in practical mining and geological explorations, Mr. HAMILTON has had opportunities which no other person has heretofore possessed of becoming intimately acquainted with the mineral resources of Nova Scotia.

PATENT FLEXIBLE TUBING, AND BRATTLE CLOTH FOR MINES,

MANUFACTURED BY ELLIS LEVER, PATENTEE, WEST GORTON WORKS, MANCHESTER.

TO COLLIERY PROPRIETORS. BEST CHARCOAL IRON AND STEEL WIRE ROPES, Also HEMP ROPES, for MINING PURPOSES. ELLIS LEVER, WEST GORTON WORKS, MANCHESTER.

CHAPLIN'S PATENT STEAM ENGINES AND BOILERS OF EVERY CLASS, FOR SALE OR HIRE, at the ENGINEERING WORKS, No. 19, CORNWALL ROAD, LAMBETH, LONDON, S. (Opposite Waterloo Railway Station).

LEAD ORES.

Date.	Mines.	Tons.	Amount.	Purchasers.
July 1	Harwood	20	£13 10 6	J. Walton and Co.
	Nether Heath	8	12 3 9	ditto
	Prince Arthur Consols.	35	14 6	Sims, Williams, & Co.
	ditto	10	9 8 6	Treffry's Trustees.
	Dyllite	47	12 12 6	Walker, Parker, & Co.
	ditto	38	12 11 6	A. Eytou.

BLACK TIN.

Date.	Mines.	Ts.	c. q. lbs.	Price p. ton.	Amount.	Purchasers.
July 10	Mary Hutchings.	4	2 25	£54 12 6	£225 18	Calenick.
	Peden-an-drea	8	3 12 4	—	434 0	—
	St. Wheal Vor	56	3 16	—	3109 3	—

COPPER AND COPPER ORES

Sold at LIVERPOOL, from July 8 to July 13.

Messrs. Pitcairn-Campbell and Co. (June 15) write—The quantities of foreign copper ore, regulus, and copper imported into Liverpool and Swansea during the last three months have been—

Tons.	Ore.	Regulus.	Barilla.	Bars.	Fine.
Against same period 1866	11,165	7,298	452	5,361	11,203
Making for the six months of—	16,700	6,065	281	2,143	8,003

Quotations are—681. 10s. to 697. for bars, 14s. to 14s. 3d. for Chili ores and regulus; Barilla, 15s. to 15s. 3d. Sales since our last have been—

Mine or ship.	Tons.	Price.	Mine or ship.	Tons.	Price.
Bars—Rosedale	18	£69 0 0	Bars—Chanacillo	25	£69 0 0
Bars—Delta	69	10 0	Reg.—Pocopilla	440	1 14 0
Bars—Martha Jackson	57	69 0 0	Bars—Second hands	100	68 10 0

Arrivals during the fortnight—W. Dixon, from Coquilmo, 25 tons bars; West Indian, from Valparaiso, 40 tons bars; Pizarro, from Valparaiso, 50 tons bars; Androski, from Valparaiso, 50 tons bars; Jessie Stowe, from Tortorallio, 120 tons bars; Claudine, from Guayaquil, 530 tons bars; Ianthe, from Huasco, 165 tons regulus; Chevy Chase, from Valparaiso, 100 tons bars; Pampero, from Valparaiso, 80 tons bars; Anonyma, from Valparaiso, 38 tons bars; Black Watch, from Pena Blanca, 700 tons ore; Northumbria, from Valparaiso, 300 tons bars; Mount Vernon, from Valparaiso, 50 tons bars; Stranger, from Coquilmo, 350 tons regulus. Omitted in our last—Montezuma, 40 tons bars. At Swansea, Madeline, from Guayaquil, 255 tons bars and 265 tons ingots; Gipsy Queen, from Talit, 450 tons ore, 68 tons regulus, and 156 tons bars. Stocks of copper (Chilian and Bolivian) in first and second hands likely to be available are—

Liverpool	Ores.	Regulus.	Bars.	Ingots.	Barilla.
	3191	3430	4363	361	386
Swansea	4273	938	441	265	64
Have	—	—	4000	635	—

Total 7464 4368 8804 1161 440 Representing about 13,600 tons fine copper, against 14,350 tons July 15, 1866, 12,500 tons July 15, 1865, 10,650 tons July 15, 1864.

COPPER ORES

Sampled July 3, and sold at Liverpool, July 17, by Mr. JAMES LEWIS:—

Mine.	Tons.	Amount.	Purchasers.
West Canada, ex Gavin Steele	50	£16 19 6	Williams, Foster, & Co.
ditto ditto	50	17 1 6	ditto
ditto ditto	55	12 14 3	ditto
ditto ex Chillianwallah	60	16 16 6	ditto
ditto ditto	60	16 17 6	ditto
ditto ditto	6	16 9 0	Vivian and Sons.
ditto ditto	6	12 19 0	ditto
ditto ex Great Western	60	16 10 6	Williams, Foster, & Co.
ditto ditto	60	16 10 6	ditto
ditto ditto	8	12 13 0	Vivian and Sons.
Brynfellin, ex Miss Maddocks.	18	3 11 6	C. Lambert.

COPPER ORES

Sampled July 3, and sold at the Royal Hotel, Truro, July 18.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols.	136	£3 17 6	East Caradon	80	£3 12 6
ditto	130	4 0 6	ditto	60	3 0 6
ditto	129	4 17 0	Devon and Cornwall	65	3 0 6
ditto	121	1 17 6	ditto	58	1 14 6
ditto	119	5 4 6	ditto	57	2 10 0
ditto	116	3 17 0	Wheal Friendship	95	2 3 6
ditto	112	4 6 6	ditto	53	5 0 6
ditto	97	5 1 6	ditto	27	11 16 0
ditto	96	4 19 6	Creake	62	3 13 6
ditto	91	5 3 6	ditto	51	4 7 6
ditto	88	4 0 6	ditto	46	3 17 0
ditto	73	3 14 6	Wheal Emma	50	2 1 6
ditto	67	5 1 6	ditto	37	8 3 6
ditto	66	3 6 6	ditto	36	3 15 0
ditto	69	4 2 6	ditto	12	12 12 0
ditto	67	2 18 6	East Russell	54	3 11 6
ditto	61	2 14 6	ditto	38	2 16 0
ditto	49	1 10 6	ditto	32	4 5 6
ditto	39	9 9 6	Prince of Wales	44	8 2 0
ditto	29	12 7 6	ditto	40	7 16 0
ditto	11	3 1 0	ditto	30	5 4 0
ditto	85	4 11 6	ditto	4	15 6 0
ditto	84	2 0 6	Bedford United	58	2 17 0
ditto	80	2 14 6	ditto	55	2 15 0
ditto	65	4 14 0	West Maria & Fortes	72	1 13 6
ditto	60	2 9 6	ditto	12	4 13 0
ditto	47	4 3 6	Bampfylde	63	11 8 6
ditto	36	3 15 0	Wheal Crebor	59	3 2 0
ditto	29	12 7 6	Gunnislake (Chit.)	36	5 10 0
ditto	104	98	Caradon Consols	36	2 4 6
ditto	63	2 13 6	Furdon	30	5 3 6
ditto	60	3 8 0	James's Ore	24	4 17 0
ditto	88	3 3 6	Collacombe	8	2 5 6
ditto	82	4 2 6			

TOTAL PRODUCE.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Devon Great Consols.	136	£3 17 6	East Caradon	80	£3 12 6
ditto	130	5 0 6	ditto	50	1 14 0
ditto	129	4 17 0	Devon and Cornwall	65	2 0 6

WATSON BROTHERS' MINING CIRCULAR.
WATSON BROTHERS,
MINING AGENTS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSRS. WATSON BROTHERS beg to notify to their friends and the public generally that Mr. W. H. CUELL has retired from the firm in accordance with a clause in the deed of partnership; and having also sold to the remaining partners all his right, property, and interest in the business hitherto carried on by J. Y. WATSON, F.G.S., NAPOLEON FREDERICK WATSON, and himself, under the name of "WATSON and CUELL," the same will be carried on in future by Mr. J. Y. WATSON and Mr. N. F. WATSON, under the designation of "WATSON BROTHERS," and they take this opportunity to return their most sincere thanks for the great patronage bestowed and confidence reposed in the firm for 24 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the share market, will in future appear in this column. In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

"INQUIRER."—1. The 55 westis bearing the first cross-course; the 45 was poor about it. The latter level was worth 50l. per fm. between the two cross-courses, which are 8 or 10 fms. apart, and 60l. per fm. after it passed through the second cross-course, and consequently many fathoms beyond the present 55 end.—2. The 45 has gone over a course of 60 fms. long; and the 45 east shows every prospect of again becoming rich.—3. Taking the four ends at their present aggregate value of 60l., and supposing they are driven 14 fathoms in a month, this will open out 140 fms. of ore ground, which, at 15l. per fm., would give 2100l., or nearly double what will be taken away.—4. So far from being small, the set is very large, nearly one mile square, and big enough for three ordinary-sized mines.—5. The north lode has been seen 18 fms. deep in West Prince of Wales, where it is a very fine one, and we fully expect to see it cut rich at the deep level in Prince of Wales, and as it would be whole to surface, it would nearly double the value of the property. Of course, this part is a speculation, but better than many that are brought out at 5000l. to 10,000l. premium on the market. Since the above was written the report shows a further falling off in the ends; now worth 50l. per fm.

CHONTALES.—As we said a fortnight ago, we scarcely expected gold this time; but shall be disappointed if there is not at least 1000 ozs. by the end of August. The reports continue satisfactory.

MINING IN BRAZIL—THE SAO VICENTE MINING COMPANY.

At the meetings of the shareholders of the East del Rey Mining Company, held in November, 1866, and in May of the present year, the conditions upon which it was proposed to form a new company for the further development of the Sao Vicente Mine, were fully discussed, and reported in the *Mining Journal*.

As, however, the enterprise is now before the public as the SAO VICENTE MINING COMPANY, it may not be without interest to recapitulate the basis upon which it is proposed to raise the fresh capital, and with this view it may be stated that the directors, in the present depressed condition of the share market, have felt it incumbent to offer most advantageous terms for the subscription of new capital, and at the same time to reduce the contingent liability per share to a defined minimum amount. Thus it is that they propose to issue shares of a low denomination, but entitled to a considerable preferential dividend, while the shareholders in the late East del Rey are entitled to an equal number of shares in the new to that which they held in the old company, which shares to be considered as fully paid up, but not to participate in the divisible profits until after the shares upon which the additional capital is subscribed shall have received a preferential dividend or bonus of 20s. upon each 10s. share, but after that payment no further distinction is to be made.

As to the position and prospects of the mine, it may be mentioned that, as far as situation is concerned, it is everything that can be desired, being about 24 miles eastward of the St. John del Rey, and 22 miles from Ouro Preto (the capital of the province of Minas Geraes), and between the celebrated Gongo Soco and Don Pedro Mines. Mr. Walter Furst (who was specially engaged by the directors of the East del Rey Company to examine and report upon the property), considers that "when once the Morro de Sao Vicente is fully developed, there is every probability (if not certainty) of it becoming remunerative to the company." Referring to jacotinga formations generally, Mr. Furst says that "when one reflects that in every instance where auriferous jacotinga has been found, great riches have been obtained, and with little labour, as compared with working in quartz formation (in March, 1863, 530 lbs. weight of gold having been taken out of the Gongo Soco Mine in three days)—this circumstance considered, and the good produce now monthly obtained from Jacotinga (also a jacotinga formation), and belonging to the Don Pedro Company, will, no doubt, give fresh impulse to the working of jacotinga formations." The Gongo Soco, from 1828 to 1833, returned 19,210 lbs. of gold, which realised 1,432,170l.; the Cocoes has also yielded great riches, one of its owners, in the short space of three months, having extracted from a small corner of the estate, by the labour of a few negroes only, gold to the value of 20,000l.; the Taquaril (for the re-working of which a company has just been formed) is known to possess rich auriferous veins, having, when worked, yielded as much as 4 lbs. to 6 lbs. of gold daily; the Condeao returned from one spot, in nine days, 14,080 ozs. of gold (worth about 4200l.); the Santa Anna yielded gold to such an extent that 50,000l. was offered for the mine, but the owners would not sell it for less than 100,000l. Besides which, the mines of Itabira do Matto Dentro, the Esmeril, and others, all in the jacotinga formation, have yielded, and some are still yielding, highly remunerative returns. It is satisfactory to find that, as far as the SAO VICENTE MINING COMPANY is concerned (the capital of which is 37,500l., divided into 75,000 shares, of 10s. each), a large proportion of the capital has already been subscribed, and in the event of the whole being taken up (which the directors seem confident will quickly be done), operations will be vigorously prosecuted, more particularly in the development of the jacotinga formation, in which the lode has been cut.

ITALIAN PETROLEUM.—An important discovery has recently been made near Pescara, which promises at least to prevent the continual advance in the price of petroleum, which has so much impeded its more extended use. Mr. Gaggiotti, the English Vice-Consul at Ancona, has received information from the discoverer that "tocolina" exists in large quantities in the locality mentioned, although the people of the place have done comparatively nothing to utilise it, beyond gathering a little of the liquid and using it as asphalt for pavements. Experiments have proved that 60 per cent. of the raw liquid, after being distilled and refined, can be made use of; whereas American oil can produce little more than 60 per cent. from the raw material. The flame produced from the oil is said to be brighter than any yet seen; and the fact that each machine at a small distillery at Port Reonati, it is evident that there are no insurmountable difficulties in the way of refining the crude liquid; the discoverer having also devised a process by which any quantity can be cheaply brought into marketable condition.

ALUMINUM BRONZE.—This alloy, in which aluminium takes the place of the tin contained in common bronze, is becoming daily more and more important in the metal trades. In a paper recently presented to the Academy of Sciences, M. Hulot, director of the postage-stamp manufactory at the Imperial Mint, describes a new application of this alloy, clearly showing its power of resistance superior even to that of steel. It may not be generally known that paper is one of those substances that blunt the edge of a knife-blade or a pointed instrument most easily. The sharpest blade becomes unfit for use after it has cut through a few hundred sheets of paper. But when the latter is gummed its power of destruction is infinitely increased, and this is the case with postage-stamps. The holes pierced through these little squares of gum paper are obtained at French mints by means of a machine consisting of an upper frame armed with 200 needle-points of tempered steel, fixed upon it in an erect position at right angles with the plane of the frame, which in its turn is hinged to another frame made of tin bronze, and pierced with as many holes as there are needles, each fitting exactly, though not tightly in its proper hole. At every stroke this machine perforates five sheets of postage stamps. The wear occasioned by this work is such, that in the course of a day the perforated frame of common bronze becomes unfit for use, the holes widening so that the paper, instead of being pierced, is merely embossed. This may be easily conceived from the fact that each machine strikes 120,000 times in the course of the day, which answers to 180 millions of holes! M. Hulot, after many trials, resolved to substitute aluminum bronze for the common alloy of copper and tin; and experience has now shown that the lower frame made with the former will last several months without being worn out.—*Galignani.*

Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

TRIPOLI.—An arenaceous variety of quartz, mixed with clay, as from Tripoli, in Africa; colour, greyish-white. Will any of your correspondents kindly inform me, through the Journal, the market for the above, or what persons use it?—S. J. H.

IRON TAMPING BARS.—I have several times called public attention to the danger of using iron tamping bars. Another accident has occurred at one of Messrs. Freemans' granite works, on Dartmoor; while one of the men employed in blasting was tamping with an iron bar, the hole exploded, and blew off part of his hand, besides otherwise seriously injuring him. The agent and his son had a narrow escape. Surely mining and quarrying agents should take the matter up, and insist upon copper tips being used, as they are already at Devon Great Consols, for life should not be sacrificed when such a simple remedy can be had.—T. NICHOLLS: *Abbey Mead, Tavistock.*

DESTRUCTION OF FIRE-DAMP.—I have just perfected a new plan for extinguishing fires, which is also applicable to the destruction of fire-damp, which it at once decomposes and renders harmless. For the extinction of fire several extensive mill owners in Bolton have already tried it, and speak highly in its favour, and I have no doubt that when it is tried in a colliery it will give equal satisfaction. I am disinclined to make the discovery public until it is secured by patent, and there are pecuniary difficulties in the way of my securing it. Perhaps, therefore, some reader of the Journal will feel disposed to co-operate with me to patent it, in which case I would willingly make an equitable arrangement.—JOSEPH JONES, Working Chemist: *Cambridge-street, Bolton.*

WEST TRELVENNA.—I would thank any correspondent to inform me if the Liquidator appointed by the shareholders is taking any steps to have the conduct of certain parties who have been officially connected with this company fully investigated before the affairs are wound-up? Such a course would be doing them and us justice. I forbear making further remarks pending the information I have solicited.—A SHAREHOLDER.

NORTH SHEPHERDS.—In the beginning of last July a meeting of the adventurers in this mine was held, and duly reported in the Journal, but since that time I am not aware that the shareholders have had any intimation of how the mine is progressing. At that meeting it was strongly recommended to work with vigour a large and most profitable iron lode then just discovered in the mine, and I am sure the shareholders will be glad to know if that recommendation was followed, and what progress the mine is making generally.—A SHAREHOLDER.

WHEAL TREVENNA.—I fully coincide with the observations made by shareholders in the last two numbers of the Journal, and suggest it would be most desirable for the parties really interested in the affairs of this company to subscribe, and obtain a report on the mine (independent of its present management) on which they can rely, as from experience very little reliance can be placed on any report which emanates from the managers or their agents.—A SHAREHOLDER.

WHEAL TREVENNA.—After three years of promises and disappointed expectations, it appears that there are a number of shareholders who have arrived at the same conclusion. They begin to doubt the accuracy of the statements made by the directors and other officers. When operations were commenced we were informed that the mine would be in a very short time become a dividend one—that the property was equal to any in the country, and that its resources were such that the shares were at a premium. Suggestions have already appeared in the Journal of the necessity of having the property inspected for the purpose of eliciting the facts. Now, I think a "special commissioner" ought to be sent, who is unconnected with the present director, to ascertain the health of the patient—to see whether it lacks proper treatment. If it is endowed with a sound constitution, or is approaching a dissolution, and then report impartially, so that the public may judge the expense to be borne by the company, thereby relieving the manager of the trouble of preparing one for the annual meeting. If the report proves favourable to the directors, so much the better for all concerned, but, if not, then the shareholders would be able to adopt such means as may be considered necessary in the meantime for the approaching annual election.—ANOTHER SHAREHOLDER: *Hull, July 5.*

EAST BASSET.—A shareholder asks why no report of progress at this mine ever appears in the Journal? Its situation and former achievements render it one of the most important of our mines, with "dividends in abeyance;" while the smallness of the number of the shares greatly enhances their speculative value, and renders them peculiarly sensitive. Reports from the mine tend to show that the former great successes are likely to be repeated. At such a time it is considered that a report in the Journal is due to the patient and expectant shareholders, and that at all times one should be forwarded at least once a fortnight. If not, why not?

BASTIER'S CHAIN-PUMP.—In the *Scientific American* of July 13 Mr. Bastier's pump is briefly referred to thus:—"Passing this (Capt. Beaumont's boring machine) we come to a simple pump, which throws an immense stream of water. It is merely a common chain-pump, with india-rubber discs for the buckets, and these fitting the barrel tightly, yet, without great friction, enable a good duty to be done without waste of power." The description is so thoroughly inaccurate that even the praise bestowed upon the pump is worthless. The novelty of Bastier's pump, which I first saw described in the *Mining Journal*, and which is about to be, if not already, introduced into the United States, is that there is no friction in the barrel except for 1 fathom in every 50 fms. In the remaining 49 fms. the diameter of the india-rubber discs and of the inside of the barrel is the same; in the 1 fm. the discs well pack. The effect of this arrangement is (as proved by the action of a glass pump showing the state of the water throughout the length of the pump) that there is never so much as a bubble of air in the water space. The disc entering the contracted portion draws in the water as perfectly as the piston of an ordinary reciprocating pump, and before the first disc leaves the contracted portion a second enters it, and the discs in the uncontracted portion are so positioned close to the side of the pump to enable each to support the column of water between it, and the disc above it, the flow upwards is much assisted, whilst the next contracted portion (that 50 fms. above the other) has a tendency, if I may so describe it, to keep the water always stretched, making it flow in a column of uniform diameter, and preventing any appreciable friction, even of the water, against the sides of the barrel in the uncontracted portion. As the American rights have been purchased by an American, or I should have negotiated for them myself, I think it the duty of every American to see that the merits of the pump are made known. Many of "Slade's" descriptions are carelessly inaccurate, as I shall demonstrate to the Editors of the *Scientific American* when next I meet them.—AN AMERICAN M.E.: *Paris, July 18.*

The *MINING JOURNAL* may be had every Sunday morning of M. L. Nteoud Belleneger, rue Rivoli, 212, Paris. Price 65 centimes. Mr. Nteoud Belleneger also supplies all English and American books and newspapers to order.

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, JULY 20, 1867.

OUR COMMERCIAL POSITION AND PROSPECTS.

The unemployed capital of the country augments daily, and it is obvious to all that it will continue to do so over the remaining months of the current year. It is no matter of surprise that money is reduced to 2 and 1½ to 1 per cent., and that it is closely hoarded by the few who command it, whilst the coffers of the Bank and the wealthy overflow with profitless riches. The trade and commerce of the country unquestionably presents many features of exceptional interest, and combine to foster protracted caution in the minds of the wary, and likewise to curb the spirit of the more buoyant and enterprising members of the commonwealth. The condition of our railways forms a topic of universal comment, and affects, next to land and our funded properties, the well-being, pecuniarily and socially, of the whole nation. The vast fabric of our iron thoroughfares is reared into a mighty engine of locomotion, as essential to the trade of the kingdom as is its prosperity as a remunerative investment necessary to the existence of the larger portion of our wealthy classes. The capital employed is equal to the National Debt of Great Britain, and few have scope of mind to grasp a subject so powerful and extended, and fraught with direful disaster to millions of Her MAJESTY'S subjects as would prove the collapse of our trunk railways. We, therefore, pause when we reflect upon recent revelations, and hope that forthcoming investigations into the affairs of other companies will show more favourable results than the North British, London, Chatham, and Dover, London and Brighton, or the Great Eastern.

The stagnant state of our money market arises from a prolonged and critical transition from excessive inflation to comparative hesitation, or to inactivity, and now stubborn prostration as to the security of our institutions, banks, railways, trading companies, or other commercial investments, of every and whatever character or description they may consist;—the results are restricted, only occasional dealings, plethora of unemployed capital, reduced prices of good and established as well as speculative properties, universal mistrust of the future and disgust at past losses, with a fixed determination not to act until the worst is over; thus the class of investments is not only choice, but excessively scarce in the market, adopted at the present moment by the holders of money, and though the amount of capital is relatively superabundant as regards all existing requirements, yet it is not absolutely so plentiful as to create any uneasiness as to its ready and legitimate employment, and at remunerative gains, so soon as the normal condition of the country becomes reinstated. The temporary loss of interest when money can only be se-

curely employed at 1 to 1½ up to 2 per cent., is wholly immaterial when compared with the necessity and importance of finding markets for all doubtful creations, and the reduction of all healthy and sound properties and enterprises of merit and usefulness to others the sad havoc and reverses of fortune attendant upon measures became requisite to cure radical abuses; nor can we consistently complain of the existing want of confidence on the part of the moneyed classes, which paralyzes the trade, and crushes the time the energy and enterprise of the commercial public.

We have, however, some hopes in the future, and do not despair of bright days and a healthy atmosphere to breathe afresh in a new field of commercial action, requiring only a few months of patient and lessening inland trade, reviving our contracted and crippled commerce with the world, and establishing with the new year permanent profitable foundation, advancing with rapid and untiring strides, enriching all associated therewith, and especially to whom the past and present lessons of inflation and prostration have impressed with the necessity of caution, and created on the part a fixed determination to avoid the shoals and dangers which ever accompany over-wrought commercial excitement. This returns of the Clearing House show no perceptible increase of payments on July 4 over other days of the month, a certain sign of our home trade has fallen off, and that it must necessarily be extremely slack. The Railways, again, are in a most deplorable condition, and must, we fear, be subject to varied changes, and most apprehend, of a disastrous character. The mileage at present open is 12,537, against 12,364 a year ago. The traffic receipts for the week ending July 12 were 607, 17s. per mile, against 591, 11s. the corresponding week last year. The increase of mileage, 173 miles, increased the weekly revenue 22,547l., but how much of this is attributable to the Paris Exhibition, and the influx of foreigners to the country, we have no means of determining.

In respect to Banks, we are pleased to observe that the Agency to discount, on Aug. 1, its promissory notes falling due Oct. 15, showing its position not only sound but affluent. The large interest being paid to original shareholders by several of the metropolitan and likewise most of the provincial institutions, added to the large reserve funds, indicate a prosperous condition that compares favourably with most other joint-stock securities; still it is desirable that the public should be informed that many of these banks sell at premiums, and that the dividend is on the capital called up, and on the market value of shares; as, for instance, the dividend is 15l. and not 40l., the current value of the Union Bank of London 20l. and not 105l., the London and Westminster; 20l. and not 44l. the London and County; 15l. and not 44l., the London Joint-Stock. On the contrary, when shares sell at a discount, the dividend is in excess of the market price, as, for instance, the Alliance, 25l. per share, against 14l., the market value of shares, pays the dividend on former and not the latter amount.

The mineral productions of the country are gradually gaining ground in public favour, and that, too, in the face of almost every conflicting element of an adverse character, so far as the trade and commerce and the home industries of the kingdom are concerned. The mines, not only of Great Britain, but those of Spain, France, Belgium, Brazil, and Chili, attract increased and deserved attention and are becoming very generally appreciated as productive sources of wealth, and also as profitable mediums for the employment of money, when public opinion totally ignores railways and other descriptions of joint-stock companies, but especially those that pay dividends out of capital,—an attractive and seductive principle, unsound finance, that fascinates whilst it ought to deter the public from embarking therein. The Great Laxey is unquestionably a valuable lead mine, and from discoveries made must be regarded as prospectively sound. West Chiverton is another very profitable lead mine, and ranks first in yield and gains of any mine in Cornwall. The Minera, near Wrexham, is of world-wide repute, and promises to produce largely for many years to come. There are other lead mines possessing peculiar features, and well worthy public attention at this moment, as, for instance, the Bwlch Consols, East Darvel, Great Darvel, and Herodsfoot. The Devon Great Consols, Great Wheal Vor, Dolcoath, Providence, Seton, West Seton, and South Caradon, are great, productive, and profitable copper and tin mines enriching the proprietors, and employing large numbers of the working classes. There are other properties in the West well worthy the attention of the enterprising, as, for example, the East Caradon, South Frances, Great North Tolgus, North Pool, Rosever Hill, Ransom, West Tolgus, and South Crofty. The auriferous value of the St. John del Rey and Don Pedro North del Rey is startling. The price of tin is advancing, and that of lead is good; whilst the aggregate dividends recorded for the month of July alone amount to an enormous sum of 88,670l. 10s., equal to 5 per cent. per annum on capital of over 21½ millions sterling.

UTILISATION OF BLAST-FURNACE GAS.—A few days since one of our contemporaries felicitated "the Black Country on the prospect of losing its unenviable title if a plan now carried out at Earl Greville's ironworks, near Hanley, were generally adopted." The plan referred to is not an absolute novelty, but it is probably carried out to greater perfection at Hanley than at any other place. The works at which it is in operation consist of a suite of four blast-furnaces, and the mouth of that which is nearest to the boilers is covered over with a movable cupola. The gas and smoke generated in the furnaces are carried, by means of iron pipes, to the fire-places of the boilers, seven in number, and also to four kilns, used in the production of the hot-blast. The pipes discharge themselves just in front of a small bright fire, in passing over which their contents become killed, and an almost constant stream of ignited gas rushes along beneath the boilers and into the hot-air kilns. The consumption of the smoke prevents its escape up the chimney, with its attendant disagreeable effects upon the atmosphere; but we shall not be thought uncharitable if we say that, probably, in the eyes of the noble proprietor and his managers the saving of fuel is a far more important consideration. By utilising the gas of one furnace, from 30 to 40 tons of slack per day are saved, and taking this and some minor economies into account, the saving is probably not less than 400, per week. Preparations are now being made for converting, in a similar manner, another of the furnaces, and when that has been done no slack will be required, and the saving still more considerable, and will amount to something important upon every ton of iron made.

MANUFACTURE OF ZINC.—During the last three or four years several improvements in the manufacture of zinc have been suggested, but only a very small proportion of them have been practically tested, having, in fact, in most instances, been abandoned as worthless by their respective inventors before the completion of the patents. In the Journal of May 23, 1863, reference was made to an invention by Mr. S. Healey. He proposed to place a reverberatory furnace for melting, beside the annealing furnace, in order that the latter might be operated with the waste heat of the former, but provisional protection was refused. In the Journal of June 13, of the same year, Mr. George Darlington's patent for mixing zinc ores with smokeless coal, and melting them by the gas heat from a blast-furnace is described. There was a collecting chamber above the melting furnace, into which the products were turned as soon as the zinc oxide began to form. Mr. Darlington's improvements were fully described in the Journal of Oct. 22, 1864. The object of Mr. George Lewis's invention, referred to in the Journal of July 25, 1863, was to give "body" to oxide of zinc used as a pigment; this he did by submitting it to friction and pressure. An interesting account of a visit to the zinc-smelting works near Aix-la-Chapelle, embracing a description of the Silesian method of reducing the ores of zinc, was published in the Supplement to the Journal of Oct. 31, 1863; and in the Journal of Dec. 26, of the same year, there were two zinc-making inventions described—the first by that of Mr. A. Muller, of Paris, who proposed to charge a blast-furnace with fuel, and then blow in the zinc ore and fluxes through tuyeres; and the second, that of Mr. S. Healey, re-specified. Mr.

James Webster proposed, as mentioned in the Journal of April 1, 1865, to reduce zinc ores by bringing them in contact with molten iron, through which they forced them; the zinc was volatilised and condensed, and the quality of the iron was improved by the process. In the Journal of August 26, 1865, the invention of Mr. A. Reynolds, of Bagillt, was referred to. The patent was not completed, and the invention is a modification of those of Messrs. Müller and Darling. The quantity of zinc obtained from British iron, above referred to, is about 15,000 tons per annum, considerably more than one-third of which comes from the Isle of Man.

SIEGENA SULPHUR MINING COMPANY (LIMITED).

This company, to which attention was drawn in last week's *Mining Journal*, has been formed for the purpose of acquiring and working the mines of iron pyrites (muriel) near Siegen, in Westphalia. The deposit on which the mines are opened is not only a very remarkable one as a source of immense mineral wealth, but also exceedingly interesting in a geological point of view. The mineral occurs in a basin of "Upper Devonian" rocks, which is, according to the geological maps of the country, about 15 miles long and 4 miles wide on the average. In this basin or trough the ore is found as a seam, lying conformably to the strata of the adjacent rocks. The mineral outcrops at many points over the whole extent of the basin, but it is not yet clearly ascertained whether there are several distinct and parallel seams, or whether the same seam may not be contorted and folded over into alternate anticlinal and synclinal axes, which by denudation may have given rise to a series of outcrops of the same seam. The workings show that the latter condition occurs partially at least, as the bottom or turn of the seam has in one instance been reached by an adit gallery, at a point lying between two parallel lines of outcrop, proving that they both belong to the same seam, although, from the fact that at each line of outcrop the dip is in the same direction, it might at first be inferred that they indicated two separate seams, lying one under the other. It seems almost certain, however, although each line of outcrop does not belong to a separate seam, that more than one exists. The seam which is at present being worked, though not subject to sudden alterations, is of varying thickness; at the bend, where it is thinnest, it is 3 ft., and increases apparently in proportion to its distance from the bend up to over 2 fms. in thickness, being everywhere solid and pure ore throughout, and with sound walls. As it outcrops the band always appears as brown iron ore, the sulphur having given place to oxygen; and in the first instance many of the concessions were obtained with the view of working them for iron, the existence of the pyrites and its great value as a source of sulphur being then unknown.

At a small distance from the surface the unchanged pyrites is met with, and the depth to which the seam has been oxidised is not uniform; on the higher ground the oxidation appears to have penetrated to a much greater depth from the surface than in the valley. The mineral is of a high commercial value, containing on an average 44 per cent. of sulphur, and is remarkable for being entirely free from arsenic—a consideration of great importance to many manufacturers. It is almost needless to remark that pyrites is an article in immense and daily increasing demand, as in so many of the arts and manufactures sulphuric acid is a principal agent. As a source of wealth, the deposit partakes more of the nature of a coal field than of an ordinary mine; the mineral occurs similarly in seams, with the like certainty of its existence in definitely calculable quantities, proportionate to the area of the field in which it occurs. The cost of raising the ore is also more comparable to that of raising coal than ordinary metallic ores, from its occurring in thick beds instead of in veins, and requiring no dressing or washing. It is sent to the market as it comes out of the mine, where it commands on the average per ton about double the price of coal. From the nature of the deposits no deep shafts are required, and to a great extent the ore can be won by adit workings. The quantity of mineral acquired by the company may be considered practically inexhaustible; in the portion that is being worked the amount proved is estimated at not less than 2,500,000 tons, although this forms only about one-tenth of the entire property, which embraces almost the whole deposit. A comparatively small portion of the deposit belongs to a German partnership, called Sicilia, which is carrying on its operations most actively, and with the most prosperous results. It suffers, however, from this disadvantage, that the Siegen Company possesses the right of unwatering the mines "Erbsollen," and in virtue of this right is entitled to a tribute of one-ninth of the ore raised by Sicilia. This in itself forms a valuable property for the present company. The mining territory of the company is over ten miles in length, averaging more than one mile in breadth. The workings up to the present have been insignificant, compared to the extent of the mineral property. Still from only two points where the ore is at present being worked there is a yield of from 50 to 60 tons daily, which is sold under contracts at prices leaving from 10s. to 14s. per ton profit; this alone would suffice to pay good dividends on the capital of the company. But taking into consideration that the quantity of ore is practically unlimited, and within easy reach, and the demand almost equally so, and that the deposit stands unrivalled in Central Europe, and can also compete successfully with the Swedish and Spanish ores in the English market, it may be safely anticipated that, with the judicious application of capital and energy in developing their property, the present company will soon rank high in the enviable list of successful mining enterprises.

COLLIERY ACCIDENTS IN NORTH STAFFORDSHIRE.

The number of fatal colliery accidents has been lamentably on the increase in the North Staffordshire district during the past six months. In 1866 the number of fatalities (leaving out of the calculation the exceptional cases of Talke and Dukinfield) was 46; it was the same in 1865, but in the first six months of the present year it reached 40. No apology can be needed for bringing the subject under the notice of our readers in the district, and for offering a few words of suggestion with a view to an amelioration of this alarming state of things. Having made enquiries on the subject in well-informed quarters, we incline very strongly to the opinion that 19-20ths of these accidents are to be attributed to the non-employment of properly-trained scientific managers. This view is borne out by numerous cases in point, two or three of which we may mention, without running the risk of giving unnecessary pain by being too particular in our description. At Colliery A the number of deaths had for a considerable time averaged four per year, but this state of things becoming unendurable the Government Inspector insisted upon a more intelligent management, whereupon the colliery that during the last three years only one life had been lost. At Colliery B the high average of fatal accidents has, from the same cause, been reduced from the neighbourhood of Hanley—the pits had become a perfect Aceldama, and the proprietors confessed at one of the numerous inquiries to which they were summoned that they were worn out with anxiety. "Improve your management," said the long-form of a threat, and at length the advice, having assumed the form of a threat, was taken, and several months have now passed without a fatality. Case D is that of one of the most important collieries in the district, entrusted to the management of a scientific manager, and accidents at once began to happen at a fearful rate. After a time the man who had been unwisely promoted was deposed, a scientific manager was again introduced, and the proportion of accidents began to decrease immediately. Colliery E is in the neighbourhood of Longton, and belongs to gentlemen of ample means. During the past 12 months explosions have occurred there over and over again, the explanation being that the proprietors have been content to leave the management to a person whose previous occupation had not been at all calculated to qualify him for such responsible duties. Case F is that of one of the wealthiest concerns in North Staffordshire, which extended its operations by the purchase of a neighbouring and important colliery property, and placed the whole under one management. The result was that the limits of human capacity were exceeded, the number of accidents trebled. A second manager was engaged, and the consequence has been that the fatalities have returned to their former normal rate, and, therefore, we will only, in addition, remind the reader that the primary cause of the catastrophe at Talke was undoubtedly the defective judgment of the person in charge of the practical working of the pit, and this fact has been recognised by the proprietors, for they have since engaged the services of a properly qualified scientific gentleman to supervise the underground management. No one will for a moment suppose that in making these observations we detract from the value of the experience acquired by intelligent working in the district; there is scarcely a colliery in the district which is properly managed, person who was formerly a working collier, where the responsibility rests upon a respectable man, who up to a certain point possesses really valuable practical knowledge, but it does not carry them with safety and confidence through all the thousand contingencies arising in the working of a large colliery; and they have authority which the prestige of a scientific education gives to their superiors

in the social scale. This leads us to remark that one of the most prolific sources of accidents is the low state of discipline in the collieries of the district, arising in nearly every case from the absence of a strict disciplinarian at the head of affairs. The underground bailiffs are too nearly on an equality with the firemen, the chartermasters, and the butty colliers, and the consequence is that, from mistaken notions of good nature or from indifference, numerous breaches of rules are winked at which would be reported and punished if the underground officials were acting under the eye of a master, and were supported by his authority. The men of this class in the North of England are not cleverer men than those of Staffordshire, but the difference in the degree of discipline maintained in the collieries of the two districts is strikingly in favour of the North, because there every man's duties are clearly defined, distinctions of grade are observed, and breaches of the rules are followed by the penalties of the law. The time, it is to be feared, is far distant when the occupation of a collier will cease to be a dangerous one, but we are convinced that the number of deaths might be greatly reduced, and that scientific management and strict discipline will contribute more than anything else to that desirable result.

MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,

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It would neither be consistent nor graceful in a notice of this description the writer to omit some allusion to the great loss recently sustained by the widely-spread community interested in inventive progress and industrial jurisprudence. The death of WILLIAM CARPMAEL is not merely a private calamity—it is a public bereavement. For very many years his name has been associated honourably, and even brilliantly, with the advance of the useful arts, and the maintenance of industrial rights and inventive property. His great capabilities and sound judgment, added to his remarkable power of memory, and long experience, gave him an eminent and well-merited professional position. It is no mere recollections of personal kindnesses that induce the writer of this article to offer this humble tribute to the memory of Mr. Carpmael, but the higher consideration that by his decease a loss has been sustained in the ranks of men with whose interests he was connected, and in whose thoughts and deeds he was concerned—the great industrial classes of the community. Various as were the channels into which his mental labours were directed, and various the subjects on which, in his career, he touched, it may be said of him—*Nihil tigit quod non ornabit.*

The week has been marked by some judgments relating to the prolongation or extension of patents, under the provisions of Lord Brougham's Act. Lord Romilly was one of the members of the Judicial Committee of Privy Council, before whom these cases have been heard. The elevation of Sir John Rolfe to a seat on the Equity Bench will, of course, modify the *personnel* of the present list of Commissioners of Patents. It is understood that Mr. Selwyn will be the new Solicitor-General, Sir W. Karslake succeeding Sir John Rolfe.

Among specifications recently published is an important one—that of BARRON'S patent; from the description it may be stated that the invention consists in converting iron into steel after the metal is formed or fashioned into shape, by applying certain gases, brought into contact with the heated metal. The invention also consists in a process of producing gases for the purposes of the invention. The gases used are carburetted hydrogen in combination with nitrogen or cyanogen, separately or together, or carburetted hydrogen with nitrogen and carbonic oxide. Ammoniacal gas and chlorine may also be used in the place of or mixed with the nitrogen. The retorts used are brought to a red or white heat, when the iron is placed in them, and the retorts are closed, and the gaseous currents are then forced into the retorts, or brought into immediate contact with the metal therein. The carburetted hydrogen may be produced as usual, or it may be generated in the retort containing the metal to be steely, by slowly admitting therein liquid or solid hydrocarbons, or nitrogensised or other fats, which will be decomposed by the heat of the retort, and converted into gas. The iron or metal, after having been steely, is protected from contact with the atmosphere while being cooled or hardened, by causing an atmosphere of gas to play around it to prevent oxidation. He produces nitrogen, carbonic oxide, and cyanogen gases by passing atmospheric air, whether heated or not, through ignited charcoal, coke, &c.

CROCKFORD, of Holywell, proposes to utilise the sulphur contained in the sulphuret of zinc, and which is now wasted. He adds sulphur vapour to the sulphurous acid gas generated by the calcination of sulphuret of zinc, and renders it available for the manufacture of sulphuric acid by causing it to pass through chambers or kilns which are heated or not heated, and which contain sulphur or any metallic sulphuret. He charges the sulphurous acid gas with additional sulphur vapour by causing it to pass through a chamber containing sulphuret of zinc, which is kept stirred or agitated without admitting atmospheric air. He also describes an improved construction of retort furnace for the reduction of zinc ores, in which is a succession of fire-places in advance of a succession of blocks, or sets, or retorts; and he describes a construction of fire-place having its length parallel with the retorts, instead of being transverse to them, as in furnaces of ordinary construction.

FOREIGN MINING AND METALLURGY.

After remaining thirty years without profit, the Ougrée Ironworks Company has just decided on the distribution of a dividend of 16s. per share for the exercise 1866-7. The rough profit realised during the exercise amounted to 21,802l., reduced by interests and miscellaneous charges to 11,637l., of which 2800l. was applied to a dividend on the shares, the remainder being applied to various redemptions, &c. The Belgian coal trade has arrived at the dead season of the year. With the exception of the Escaut and the Esperre and Bossuyt to Conrath canals, the navigations are generally suspended. This state of affairs, which is renewed every year at the same period, produces generally the same effects; the stock accumulates, and extractors can only hope that on the re-opening of the navigations affairs will regain a new activity. Meanwhile, business is very quiet, and prices are low. The Government has just "ceded," for 30,000l., to three coal mining companies, the United Collieries, the Pays de Lège, and the Poirier—the land under the fortress of Charleroi. The annual report of the Charleroi Chamber of Commerce informs us that the number of collieries in activity in the arrondissement of Charleroi has remained the same (61) since 1864; on the other hand, the centres of working in activity, which numbered 115 in 1864, only amounted to 110 at the close of 1866. The engines employed amounted to 163 for extraction purposes, 63 for drainage purposes, 128 for ventilating purposes, and 187 for miscellaneous purposes, representing a total force of 24,431 horse-power. The workmen employed were 12,000, and the surface, numbered 32,204; they raised altogether 5,203,773 tons of coal last year, the extraction costing for wages and other expenses 2,041,501l. A supplementary order for rails has been obtained on Russian account, and has brought some employment to workers who saw the time approaching when they would altogether lack it. In other respects, Belgian metallurgy remains in a depressed state. An adjudication for 10,000 tons of rails, required for the Belgian State lines, will take place August 1, at La Haye. The results of this adjudication will show the importance of the sacrifices which certain industries in a distressed state will make in order to procure work. Meetings are announced as follows:—Carrières-Sud Collieries Company, July 31, at Charleroi; Longterre-Ferrand Colliery Company, August 5, at Elouges; United Verviers Collieries Company, August 6, at Gilly; and Marcinelle and Couillet Company, August 8, at Brussels.

The state of French siderurgical industry presents little or no improvement; affairs are almost *nil*, and the few transactions which take place are competed for most indefatigably. In the Moselle, for example, we see the forgemasters of the Meuse, the Haute-Marne, and the Ardennes offering pig on the Metz market in competition with the producers of the department. Refined pig is quoted at 2l. 14s. to 2l. 15s. 2d. per ton. The house of Wendel recently tendered for a lot of Prussian rails, and from the price at which it offered to supply the rails it virtually obtained the contract; it was given, nevertheless, to the Burbach works, as the Prussian Government did not deem it advisable to enter into a contract hard and fast with MM. Wendel, but preferred to encourage instead a Prussian concern. The department of the Meurthe appears to now possess coal workings of some importance, which were scarcely known fifteen years since. At the close of last year fourteen concessions, comprising altogether about 10,000 acres, had been accorded, and the total has since been almost doubled, extending now to about 20,000 acres. The mineral bed is variable; in certain concessions in working it has a thickness of 23 ft. to 40 ft., while in other localities it does not exceed 13 ft.; at the same time it is of remarkable richness. In all, eighteen blast-furnaces are now in operation or construction, and everything leads to the belief that this number will be rapidly developed. Casting pig is quoted at 2l. 18s. It is not generally known that the Franche-Comté Forges and Foundries Company has a thickness of the wire used for the Atlantic cable. In the department of the Ille-et-Vilaine, far from prospering, metallurgical industry tends to disappear; the development of the production of iron and coal has rendered the existence of the blast-furnaces using wood as combustible a matter of very great difficulty, and some of the works of the department have been successfully closed. There remain only two in activity—those of the Vallée and the Sérigné, and at the last only second fusion pig is now made. In proportion as ironworks are disappearing in the Ille-et-Vilaine, the working of mineral is being developed; the department now supplies the blast-furnaces of the Côtes-du-Nord and the Mayenne, and exports rather considerable quantities of minettes to England. The Montataire Forges Company is paying a dividend for 1866-67 of 2l. 5s. per share, or 1l. 4s. per share payable July 15, and 1l. 4s. per share payable Jan. 15, 1868. Meetings are announced as follows:—Montebas Tin Mines

Company, July 23, at Paris; Val d'Oise Blast-Furnaces and Foundries Company, July 24, at Paris; Huelva Copper Mines Company, July 27, at Paris; Meurthe Colliery Company, July 27, at Béthune; and Souglard and Fourniers Forges and Foundries Company, Aug. 3, at Paris.

At Havre the demand for Chilian copper is now almost *nil*; few purchasers present themselves on the market, and the only transaction mentioned is the sale of a small lot of disposable at 69l. 10s. per ton. For deliveries at short dates business has been done at 71l. per ton. At Marseilles prices have remained without change, and without other affairs besides transactions in detail. Toka has made 74l.; Spanish, 72l.; Chilian and Peruvian, 80l.; rolled red copper for sheathing, 92l.; and yellow ditto, 82l. per ton. The Paris market has been quiet by continuation, English making 80l.; Lake Superior, 89l.; Chilian, 71l.; and Corocoro mineral, 76l. per ton. The position of the article has not varied on the German markets. On the Dutch market the total sales registered comprise 300 blocks of Banca at 53½ fls., 500 blocks at 52¼ fls., 1000 blocks at 52½ fls., and 1000 blocks at 53 fls.; Biliton remains quoted at 52½ fls. The demand for tin has been moderate on the Paris market, but prices have been firm, Banca making 96l., Straits 91l., and English 90l. to 91l. per ton. The German markets indicate, generally, a good tone of the article. On the Paris and Marseilles markets lead has been almost entirely neglected, while on the German markets it has been tolerably well sustained in value, as well in consequence of purchases provoked by consumption, as from the scarcity of disposable goods. At Paris rough French lead has made 20l. 2s., and Spanish 20l. 4s. per ton. At Paris lead in saumons, first fusion, has made 18l. 6s., lead in shot 19l. 12s., and rolled lead and pipes 21l. per ton. At Rotterdam, Stolberg and Eschweiler lead, and German lead of various marks, has realised 11½ fls. At Breslau and Hamburg there have not been many transactions in zinc; nevertheless, holders decline to make concessions. The Paris market remains quiet, at former rates; rough Silesian has brought 21l. 4s., and lead from other sources 20l. 16s. per ton.

REPORT FROM NORTHUMBERLAND AND DURHAM.

JULY 18.—The state of trade here generally does not improve, and, after a long struggle to keep its head up, the coal trade appears now to have fairly caught the infection—large heaps of coal are accumulating, at some points, more particularly on the Wear and in the western parts of the county of Durham, and short time is now resorted to in some cases, in order to check the supply. The following table shows the quantities of coal exported and sent coastwise during the months of June in 1866 and 1867:—

	June, 1867.		June, 1866.	
	Exports.	Coastwise.	Exports.	Coastwise.
Newcastle	237,124	16,921	240,781	11,092
North Shields	8,339	121	11,430	70
South Shields	14,835	—	4,498	—
Blyth	17,163	—	19,354	—
Amble	3,091	55	5,047	144
Sunderland	121,103	490	99,721	1,330
Seaham	8,731	—	7,824	—
Hartlepool & West Hartlepool	51,908	1,977	53,024	1,988
Middlesbro'	11,104	3,831	10,965	2,458
Total	473,394	23,395	452,645	17,082
	June, 1867.		June, 1866.	
	Exports.	Coastwise.	Exports.	Coastwise.
Newcastle	191,559	1,064	196,215	1,241
North Shields	5,180	—	966	—
South Shields	994	—	5,252	—
Blyth	6,296	—	12,004	—
Amble	779	—	—	—
Sunderland	133,339	142	138,955	—
Seaham	41,661	22	44,349	—
Hartlepool and West Hartlepool	71,070	40	72,382	—
Middlesbro'	12,616	538	11,539	110
Total	463,394	1,806	480,862	1,392

It will be seen that the total quantities of coal sent from north-eastern ports during June, 1867, nearly corresponds with the quantity sent away in June, 1866—the exports having increased in the present year (that is, in the June month) by 20,753 tons, while the coals sent coastwise show a falling off equal to 17,468 tons.

Now, when the value of coal is increasing from year to year, and the question as to the duration of the coal fields of Great Britain deservedly assumes the most serious importance, any process whereby the produce of the beds and general strata already known may be largely increased in amount and value, must be hailed as a boon of great magnitude. Under this head may be classed machines for cutting coal; and it may be remarked, by the way, that here these machines make little progress, but they will, without doubt, be brought to higher perfection at some future day. The most important branch of this subject at present, however, appears to be the utilisation of the shales and carbonaceous clays found so abundantly in connection with the coal measures. The manufacture of oil from those shales has been going on in some parts of this district for a considerable time, extensive works for the reduction of the shale heaps at some of the Lambton collieries having been established about three years ago, and works of a similar kind are being established at several places in the district, at some of which the products are converted into grease for consumption on the premises. The employment of coal oil, in combination with coal, for the manufacture of gas, must give additional importance to this subject; and there can be little doubt that a trade of much importance and commercial value will shortly spring up. This subject was fully noticed in the Journal of the 6th inst., the article in question giving the substance of a paper by Mr. E. Goddard, engineer to the Ipswich Gaslight Company, read before the British Association of Gas Managers, at Nottingham. It was there stated that works on a large scale are in course of erection at Murton, near Seaham, where it is expected that a mixture of coal and oil will be produced for the manufacture of gas equal to the best Boghead coal, and at about one-half the cost of Cannel.

There is no improvement whatever in the Iron Trade, and stocks continue to accumulate. At Middlesbro' there is a large quantity in stock in the warrant store—not less than 74,000 tons, the largest quantity ever stocked there. All branches of the iron trade continue dull, and entirely devoid of animation. Foundries, generally, continue in the same state, while most of the works are but moderately employed. All the smaller mills and foundries of the district are, with few exceptions, working short time, and there certainly is little prospect of any great improvement during the present year. On the whole, however, the blast-furnaces of the Tyne and Wear are better employed than any other branch of the iron trade in the northern parts of the district, the stocks of pig-iron being greatest in the south or Middlesbro' port.

A rather disagreeable strike has taken place at the Ouston Collieries—that is, at a part of the pits there. A demand was made some time ago for an advance of 1s. per score, or about 15 per cent. on the old prices, and an offer has been made on the part of the owners to give an advance of 4d. per score, but this has not yet been accepted on the part of the workmen. After giving due notice, which expired last week, work was entirely at a stand at some of the pits belonging to the company—that is, the Bewick Main and another pit. A rather curious move has been made on the part of the men, apparently with a view to assist those on strike, and facilitate a settlement. The men at the pits referred to have restricted themselves to earn a certain amount per day—2s. 6d. per day in one case, and 1s. 9d. in the other; if this odd arrangement was adopted generally in these two counties, the result would, no doubt, be a considerable improvement in the demand for coal. It is hoped that an amicable settlement of the dispute will be arrived at soon, as the amount in dispute is not large.

REPORT FROM SCOTLAND.

JULY 17.—Operations in the Pig-Iron Market have been nearly suspended during the week, and the business done has been at stationary prices. The shipments for the week are in favour of the market, being 11,670 tons, against 10,375 tons in the same week of 1866. To-day the market is inanimate, and slightly lower; iron obtainable at 53s. 1½d. cash, and 53s. 4½d. a month, buyers 1½d. a ton less. Makers' iron—Glenarnock, 59s.; Coltness, 62s.; Gartsherrie, 62s. 6d. No. 1, g.m.b., 53s. 9d.; No. 3, 52s. 9d. Manufactured iron is unchanged either in price or demand, and several of the works are to have additional holidays at this time, owing to the paucity of orders. Coals are dull of sale, the weekly shipments of last year and this nearly balancing the quantity for the week just ended being 24,500 tons, against the larger sum of 24,625 tons same week of 1866. Yesterday there was a great demonstration of the locked-out men in the Wishaw, Hamilton, Motherwell, and Larkhall districts, held at the Shield Muir. The great orator was Mr. McDonald, who characterised the lock-out as unfortunate and foolish for the masters, and for this he was highly applauded. He continued—The masters had no coal. The lock-out could not kill the consump, and the men had only to go where the coal was. They should also consider that wherever they went it would require three to put out the quantity that two men could do

In Wishaw. If they agreed that Scott's men should remain out, headvised them all to treat the lock-out as if it were to last six months—nay, six years; leave the district as if there never was to be work more in it. He understood the employers were bound, under a penalty, not to begin their pits till Scott and Gilmour's men agreed. They should bind themselves, under a penalty, not to resume work till six weeks after they were needed by their former employers. He was glad to inform them that he thought work in plenty could be found for all locked out. In the North of England the men had lately gained certain concessions, which made their rate of wages far over the men of Scotland. In some of the shale fields there was more activity. He wanted the public to know that the strike was provoked by Scott telling his men they were to be reduced, though they had already submitted to a reduction of 20 per cent. The following resolutions were agreed to unanimously:—1. That the men of Scott and Gilmour's collieries remain out till their requests be yielded to.—2. That all men leave the places locked out, and not return till they be sent for.

It is very probable that the men will have their desire, as there is some likelihood that miners from Cornwall will be imported to fill up their places on a scale which will make the project a success. The number of hands locked out and at work in this district are about equal—thirteen firms being locked out (two partially). At a meeting of masters to-day, they resolved to allow matters to remain undisturbed. The Orna ironworks and mineral fields, belonging to the late Mr. Stewart, are for sale or to be let; the Britannia forging, tube, and shovel-making works, Coatbridge, are offered for public roup; and the Clyde foundry and plant. Shipbuilding is quiet on the Clyde, but more stir is expected after the holidays.

The paddle-steamers *Bella* and *Mary Helen*, built by Messrs. Wingate, of Whiteinch, and recently purchased by the Turkish Government for the Imperial Navy, sailed for Portsmouth in order to assist at the naval review, and for the inspection of the Sultan. The former is a vessel of about 800 tons British measurement, and 200 horse-power, and the latter 1000 tons British measurement, and 250 horse-power. They have both proved very fast, the *Bella* steaming 19 miles per hour, and the *Mary Helen* 21 miles per hour, on the official trial trips. Even better results are expected when the engines have been working for some time.

REPORT FROM MONMOUTH AND SOUTH WALES.

JULY 18.—More encouraging hopes with regard to the prospects of the Iron Trade for the next three months are now held out by merchants and factors than for some time past. Although many marks of the quietude which has so long prevailed are still visible, the prevailing belief is that the trade is on the eve of a general improvement, though it may be but gradual; in fact, until the commencement of another year a thoroughly normal state may not be regained. Enquiries from the United States are increasing, and a demand is also springing up on account of East Indian and Australian markets; and these facts, coupled with the probability of a large quantity of rails being required for Russia and America, fully justify ironmasters in anticipating better times to come, as the countries named have hitherto been good customers to the district, and it is only reasonable to anticipate a fair share of future requirements.

In the manufacture of the more important branches of the iron trade South Wales has, of late years, made great progress, and among the latest improvements may be mentioned the production of the Patent Weldless Tyres, which were introduced into the district by the Blaenavon Iron Company, to whom the make has been exclusively confined; and, owing to the reputation enjoyed by the company for the manufacture of iron of the best description, these tyres are now taking their place in the market equal to the very best Yorkshire, and the company's mill has been fully employed for the last twelve months on orders for the most influential railways both in this country and in India.

There is a better enquiry for Tin-Plates, cokes selling readily at the recent advanced rates, and charcoals are largely purchased at firmer and better prices. The Steam Coal Trade is not up to the average, and merchants complain of the dulness prevailing, for which they have just cause, as the busiest part of the season may now be said to have arrived. To meet the increasing traffic at Birkenhead shippers are straining every nerve to provide the necessary facilities.

Messrs. Jones and Co., of Caerphilly, have taken the Iron Foundry at Maesgwyn, which they intend starting forthwith. The foundry was built a great many years ago, and has been worked by several parties since, but for some time it has been at a standstill.

The Patent Nut and Bolt Company (Limited) have announced a dividend of 7½ per cent. per annum for the half-year ending July 30. The profits of the company justified a larger dividend, but the directors deemed it prudent to reserve a balance for the result of the year's trading.

A decided improvement on the ordinary construction of Miners' Safety-Lamps has been patented by E. Thomas, of Aberdare. According to the present construction of miners' safety-lamps the glass is held in the lamp by means of a plain or flat metal ring, which fits into a screw on the lower part of the frame of the lamp, and bears directly against the bottom of the glass, no allowance being made for the expansion of the glass, and hence the frequent fracture of lamp-glasses. As it frequently happens, moreover, that the glass and ring do not fit together accurately, an inlet of foul air often takes place at that part. The ring is constantly liable to become unscrewed by simply turning the glass from the outside, the friction of the glass against the ring carrying it round with it. Now, according to this invention, the patentee forms an annular groove on the surface of the ring, and causes the glass to fit into such annular groove on the surface of the ring. And in order to prevent the possibility of the ingress of foul air to the lamp at the top and bottom of the glass, and to allow for expansion, he introduces at those parts an elastic packing ring, or washer, of vulcanised India-rubber, and at the bottom of the glass he interposes a loose metal ring, or washer, between the India-rubber and annular grooved ring. By these means the loosening of the securing-ring by turning the glass is prevented.

F. W. Darne, Swansea, and D. Thomas, Cwmavon, Taibach, have taken out a patent for Picks or Mandrills, such as are used for cutting coal and other mineral. According to this invention, in place of making the head of the pick or mandrill in one piece, the patentees make the point or points separate from the other parts of the head, and so that they can be removed and replaced at pleasure. By this arrangement, when the points become blunt, they can be removed, and sent to the surface to be sharpened, whilst, in the meantime, the pick may continue in use, another point having been fitted into it. The patentees form in the head of the pick a socket or sockets, on one or both sides of the hole, which receives the handle, and they make the movable steel points with stems, which fit into these sockets, and are secured by locking screws, or other convenient means.

The Rhymney Railway shareholders may well congratulate themselves on the success which has attended the directors' application for running powers over the Great Western, from Hengold Junction to Aberdare and Hirwaun. For a small company, it is astonishing that the Rhymney have held their ground so well, as in almost every step they took they have met with determined opposition from their powerful neighbours, the Taff Vale. The success of the application referred to, combined with the carrying out of the Cardiff and Caerphilly section, will render them not only independent of the Taff Vale, but strong competitors of that company for the most valuable part of the latter's traffic, and that is the conveyance of Aberdare coal to Cardiff for shipment. In point of distance there will be no appreciable difference in the Rhymney and Taff Vale routes, and if the former only secure 20 per cent. of the traffic, which it is reasonable to suppose they will, their receipts will show an enormous increase. The running powers are to come into operation when the Cardiff and Caerphilly section is completed, and it is satisfactory to find that the contractors for this branch are making all the progress possible. The Great Western Company are to double their lines from Hirwaun eastward to Quaker's Yard within two years of the Rhymney Company calling upon them to do so, and the Rhymney Company are to contribute towards the expense such a sum as an arbitrator shall fix upon.

The arrivals at Swansea include—the Little Gem, from Tilt Cove, with 184 tons of copper ore, for H. Bath and Son; the John Rosser, from Tilt Cove, with 290 tons of copper ore, for H. Bath and Son; the Tavitock, from Antwerp, with 874 casks of zinc crude, of 100 tons, for Governor and Company of Copper Miners; 23 tons of old copper, in bulk, for Vivian and Sons; Europa, from Bilbao, with 289 tons of iron ore, for W. H. Tucker and Co.

FOREST OF DEAN.—There is little change to note this week in the iron trade of the district. If anything, a little tone has been imparted by the result of the late Ironmasters' Meeting in Staffordshire. At all the Forest of Dean works there is no scarcity of orders, and the iron lately sent off has not only been in more than average quantities, but fully up to the standard in quality. While the adoption of the hot-blast oven has enabled makers to increase, or at least facilitate, their "caste," in some instances the iron does not, neither has it, turned out so generally good as when made under the old system. The more frequent plan in such case, and which course is adopted here, is to re-cast before the "brand" is finally attached. The adoption of such a course, expensive though it be, more than compensates in the sale of the iron. This plan, too, may to some extent explain why the Forest iron is so eagerly caught up, and why a good average business is done.

There appears to be a slight diminution in the demand for household coal this week; it must be admitted, however, that this is far from being of a general character, it being more applicable to the part of the trade effected by the coal merchants. There being no stock at any of the pit-banks, any temporary dulness cannot materially interfere with the "put outs" at the various collieries. It will be remembered that some of the coalmasters are under contracts with their customers to supply a certain quantity of coal per month. In such cases a regular trade can be relied upon. The immediate or local trade just now is sluggish. This item would, to some extent, influence the "call." During the winter months streams of conveyances may be seen wending their way to the collieries from the surrounding neighbourhood. It is very different just now, as in an agricultural district which encircles the Forest, wood is substituted for coal.

The doubts expressed at the beginning of last month with regard to the final opening of the Forest of Dean Central Railway bids fair to be more than verified by absolute fact, inasmuch as since the early part of June last this

unfortunate line has been under the special care and watchful eye of a person who represents the Sheriff of the county of Gloucester. This is much to be deplored for many reasons. In addition to the existing claim by the Crown, there are other matters both ugly and ominous, and which certainly foreshadow anything but good. The original shares cannot be worth holding, as the railway has been so much encumbered with legal and other expenses. The line is actually completed to Moseley Green, and might up to this point be opened for traffic.

The all-absorbing topic in this district is the elevation of Sir John Rolit to the Bench in the Court of Appeal. This appointment has caused a vacancy in the representation of the western division of the county of Gloucestershire. Hitherto West Gloucestershire has been represented by a member of the present Government. Mr. Charles Berkeley, second son of Lord Berkeley, who a few months since received a numerous signed requisition, has yielded to the wishes of his friends, and has issued an address, offering himself as a representative in the Liberal interest. What steps the Conservative party will take is, up to this date, not known in this district. A meeting has been convened at Bristol, the result of which is kept secret. Sir George Jenkinson has had his eye upon the fertile valley of the Severn for some time, and yearns to serve in Parliament his Gloucestershire friends. The young Marquis of Worcester, who is under age, is also spoken of. The influence of the Berkeley and Beaufort houses is great, and both have antecedent claims. It is a matter of regret that some gentleman in the Forest of Dean, or more intimately connected with the Forest, cannot be found. The district is admitted by all parties to be one of great commercial importance. The various interests of the Forest of Dean have never had a good exponent in the House of Commons. The nomination is fixed for the 25th of July, at Dursley. [It has since been ascertained that Col. Somerset, cousin of the Duke of Beaufort, will contest the vacant seat with Mr. Berkeley.]

REPORT FROM DERBYSHIRE AND YORKSHIRE.

JULY 18.—A slight improvement has to be noticed in the Coal and Iron Trades of Derbyshire, so that the prospects are more encouraging than they have been. In addition to a large output of pig, there is a fair business being done in most qualities of iron, including gas and water-pipes, hoops, bars, and sheets. There is not so much doing in rails, most of the mills being very quiet. In Coal there is rather more doing, still several of the collieries are working short time, whilst others have been obliged to stack to some extent. There is a full average trade being done to London and the South, Clay Cross, as usual, being the largest exporters. There is no alteration in the southern part of the district relative to the dispute between the colliery owners at Church Gresley and Swadlincote and their men. The offer of the deputation which lately met the representatives of the proprietors, "that all the men should resume work, if the employers would withdraw their opposition to the Miners' Union, the men pledging themselves not to make any demands on their employers or agents, except such as are in common with the working of collieries of the district, or as may be mutually agreed upon by both parties," has been refused in very peremptory terms. Mr. Eley, on the part of the masters, has returned the answer that the coal proprietors "refuse to entertain the matter in any way whatever." As there are upwards of 300 men now out, it is not unlikely that a considerable number, having experienced the blessings of living on charity, and dining on the melodies chanted by that most indefatigable of peripatetic agitators, Mr. Brown, late of Hunslet, near Leeds, but now of Nottingham, will shortly return to work. Already many of them show symptoms of being disgusted with the 5s. a week and two or three loaves of bread, and yearn for the beef and beer to which they had been accustomed. In fact, the attempt to form a Union in Derbyshire has been a signal failure so far, owing to the position at the onset taken by the masters; but as Mr. Brown is just now in the position of "a pig without a test," no doubt he will work hard to maintain his position, and gain members for the Union; still the fates are against him, and it is evident he will have to seek fresh pastures and more congenial materials.

Having terminated the enquiry into the trade outrages, the Commissioners have left Sheffield to something approaching peace and quietness, although there still lingers a good deal of animus behind. The two daily papers of which the town can boast have taken the matter up warmly, but the backer of the Unionists has come to grief. He, however, obtained a certificate from Mr. Overend to the effect that the conduct of the persons attending the sittings was in every way exemplary; thus, to some extent, whitewashing the parties whose risible faculties were so often excited at what sober-minded persons would consider matters not only disgraceful to the individual under examination, but to the town at large. Unfortunately, the paper alluded to has had its own reports quoted, and the language as given in them as made use of by Mr. Overend shows that that gentleman has, with pardonable weakness in favour of his own town, endeavoured to forget some of the scenes in which he took part. Enough, however, has been said on the subject and to Parliament and the *Pall Mall Gazette*—which has taken such a very deep interest in the matter—the future had better be left. The staple trade of the town may be said to be quiet, and in very few branches there is any apparent activity. In the heavy steel branches there is a fair amount of business being done, but in general cutlery the demand is only limited. Some of the houses in the file trade are kept fairly going, but others are far from busy.

The ironworks throughout the South Yorkshire district are now favourably off for orders, and nearly all of them are working full time. In bars, sheets, and hoops there is a fair demand, as there is also at one or two establishments for boiler and ship-plates. Pipes and castings for palisades are being largely manufactured in the neighbourhood of Chapeltown, principally for exportation. The steel works continue active, and a large quantity of rails from Bessemer steel are being turned out daily at Penistone and other places. There is rather more doing in coal, and during the week there has been an increased tonnage of Silketon and the best qualities of the Barnsley seam forwarded to London and the South. The export to the ports of Hull, Goole, and Grimsby has improved, and a good deal of steam coal is being sent to those places for shipment to France, the North of Europe, and the east coast. To the neighbourhood of Manchester there is an increasing trade being done, chiefly in engine coal and slack. Although several of the collieries continue to work short time, still such is not so general as it has been.

At the Oaks Colliery the work of clearing the No. 1 shaft continues, but the progress made is necessarily slow. The walling of the shaft has been repaired, new conductors carried down as far as the men have gone, and there are about 110 yards of stuff to be got out.

Mr. Southern, the recently-appointed Government Inspector of Mines, has been indefatigable in making himself acquainted with the collieries in the southern parts of the district, and, from the great interest he appears to take in his work, considerable benefit will doubtless be the result. Instead of waiting for an accident to occur, he does what has long been unknown in the locality. He visits collieries impromptu. On Tuesday he went down to the Oaks, and also called to see a new pit which has just been sunk at Pinder Oaks, near Barnsley. His attention with regard to the last-named pit being called by a paragraph in a Leeds paper, in which it was stated that "the new shaft is said to be free from sulphur of a fiery nature." He did not, as might be expected, find the phenomenon of sulphur that was not of a fiery nature; indeed, no one ever heard of it before; but, as it was only a few hundred yards from the Oaks Colliery, he naturally enough found the explosive gas peculiar to almost every working in the district.

The improved Patent Coal-Cutting Machine, patented by Messrs. Farrar and Booth, was tested on Monday at the North Gawber Colliery, and with the most satisfactory results. It will be sent to the Manchester district, in November next, to compete for one of the prizes of 500L, 300L, and 100L, offered by the coalowners of Lancashire and Cheshire for the best machine adapted to the cutting of certain seams of coal.

The opening of a new colliery at Denby, in Derbyshire, on land belonging to Mr. W. D. Lowe, who is also the proprietor, was celebrated on Thursday, when upwards of 300 of the workpeople sat down to a substantial dinner, over which Mr. Lowe presided. After dinner a few speeches were made, and the party adjourned to a field, where a number of rural spots were indulged in, everything passing off most agreeably.

A company is being formed, with a most respectable and influential direction, to work the Moss Hall Colliery, in Ince-within-Mackerfield, Lancashire, and the Low Hall Colliery, Hindley, with other concerns. The promoters and directors are—Messrs. John Latham, M.D., Millgate-street, Wigan; Richard Christopher, Ince Green Lane, Wigan; Oliver Holden, Chesnut-grove, West Derby; Liverpool; George Caldwell, the Grove, West Houghton, Deane, Lancashire; Jas. Whitehead, Cambridge House, Southport, Lancashire; Jas. Burrows, C.E., Douglas Bank, Wigan; and Thomas Wright, Low Green, Hindley, Lancashire.

The completion of the Rye-field Pit at Denby, Derbyshire, has been the occasion of much rejoicing. The shaft was commenced on Dec. 5, 1864, and the seam was reached on June 25, the works having been carried on under the direction of Mr. J. T. Woodhouse, of Derby. The new shaft is the finest in the neighbourhood, being 284 yards deep, with a clear diameter of 13 ft., and the masonry is of the most substantial character, calculated to last literally for an age. As for the coal produced, it is a continuation of the well-known Kilbourne seam, about 3 ft. 9 in. in thickness; and when in full work it is expected that the colliery will employ from 400 to 500 hands. The whole of the workmen employed by Mr. Lowe, the proprietor, were regaled with roast beef, plum pudding, and beer, in unlimited quantities. After the usual toasts had been disposed of, Mr. Lowe remarked that as they had succeeded in getting to the coal at the new works, it was fitting that they should meet together and wish each other success and prosperity for the future. He felt that their interests were identical, that they were all in the same boat, and he hoped they might work amicably together, and long keep in smooth water. He could bear testimony to the good conduct of the Denby men in the past, and he trusted they would continue to conduct themselves in an exemplary manner. He looked back with pleasure to the length of time he had known Denby, during which he had always been treated with courtesy and respect, and he should look forward with confidence to the same treatment for the future. (Cheers.) He believed his family had been in the neighbourhood from 600 to 600 years, and they might be sure there was some attachment to Denby. He had every reason to be proud of the Denby people, and it afforded him much pleasure to meet them. In proposing the health of those who were instrumental in working the colliery, he said that he believed the agents had the comfort and

welfare of the workmen at heart—at any rate, it was his wish that they should be, and he hoped the colliery would be the means of promoting the welfare of the people of Denby for many years to come.

At the inquest at Batley, near Dewsbury, upon the bodies of Butterworth and Elizabeth Priestley, who were killed by an explosion on Thursday evening, Mr. F. Longridge, engineer, of Manchester, showed that the boiler had been corroding underneath for eight years, and an explosion had occurred much earlier, but that the boiler was embedded in brickwork, and engineers for not exercising due care, but saying they were not really responsible.

On Wednesday an unusual tribute of respect was paid to a young man named Emms, who was killed by a fall of coal at the Agnes Main Colliery, Barnsley. The whole of the workmen, to the number of 150, followed the remains of the deceased to the grave, all decently attired in full mourning, and a distance to walk was upwards of four miles, and the conduct of the funeral was in the extreme. On reaching the church the Dead March in Handel's very impressive performance by a rising young organist, Mr. A. Gill, of the parish church. The service was listened to with deep attention by many, probably never heard such words before.

THE OAKS EXPLOSION.—ACTUARY'S REPORT.—The report of the actuary (Mr. W. P. Paterson, of the Commercial Union Assurance Office, London) has just been received by the Barnsley Relief Committee for the management of the above fund. Two elaborate tables have been prepared, one showing the amount required according to the present scale of allowance, and other a higher scale, similar to the one adopted in the Harley calamity, and estimate for the present scale of allowance is, in round numbers, 40,000L, including about 13,000L more still to be raised if the higher scale be adopted. The allowance according to the lower scale is 5s. per week for each widow, 2s. 6d. extra for one child, 4s. 6d. for two children, and is, additional for each child up to six years. There are also allowances calculated for marriage portions, children of single women, parents, &c. The sum received by the committee is 32,792L 8s. 1½d., and there has been expended by the committee, since the explosion, 17,170L 8s. 1½d., so that there is a large deficiency. It is, however, to be borne in mind that the Mansions House Committee holds a sum of 25,000L, subscribed on account of the two accidents, and the disposal of which is to be settled by a conference early day, but no date has yet been fixed.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

JULY 18.—There is nothing new to say about the Iron Trade this week. The week between the Preliminary and the regular Quarterly meetings is usually a quiet one, and this is no exception. The position of the trade is this. There is a clearly urgent necessity for more iron than is being made, and which financial difficulties, financial fears prevent being ordered until the last moment. Against there are enterprises waiting for the restoration of confidence to start, and there are no strikes; and hence a generally spread conviction that iron would be more in request would soon lead to some improvement. The weak point is the aspect of things in the United States. They have there two elements which necessarily create uncertainty—an inconvertible currency and a high scale of protective duties. People cannot be sure, cannot be fairly certain, that if they make a bargain to-day, expressed in dollars, that a dollar will be the same value in three months hence; or that the artificially high prices to which a protective tariff leads may not collapse, and involve loss in the fulfilment of future contracts. The resolutions of the men, quoted in the *Mining Journal* of Saturday last, affirming the necessity of imposing restrictive duties on the immigration of workmen, caps the climax of the absurdity of a protective policy. It does more; it dissipates the idea that Mr. John Morley and others have propagated, that workmen's associations are based on a lofty principle of self-abnegation for the good of the whole, since this desire to prevent European workmen from coming to share the advantages of the United States is, like limiting apprentices, pure and really narrow selfishness. The fact is we are all very much alike, and no class has a monopoly of wisdom or virtue. We may hope that protection will fall in America by the force of the demonstration of its own adoption to the utmost extreme; but how long first! Individual interest, real or supposed, upholds it, and that is far stronger at any rate far more on the alert, than the general sense of the general weal, until time shall slowly impress on the whole community the folly of the course, which is very much like striving to make water run uphill, or damming it up so that it shall not flow by its own gravity, in which case there is always the danger of a destructive flood. Our trade with the United States will never be steady until protection is banished from the faith and practice of the nation.

A dreadful accident occurred on Thursday, by the bursting of a tuiere at one of the blast-furnaces of the Parkfield Iron Company, near Wolverhampton, which caused the death of two men, and severe injury to others. The tuiere that exploded was a new one, and had been worked for the first time the day. At 6 o'clock in the evening the furnace had been taken out of blast, and with a man named Higgins, had not been long at work when the tuiere burst. On examination it was found that in some way or other a hole was blown in the nose of the tuiere, and the fire thus getting to the water with which the tuiere is kept surrounded to preserve it the explosion took place. So far as the furnace itself was concerned, the damage was so slight that it was at once repaired, and it has since continued in operation. The deceased themselves attributed the occurrence solely to accident, and a verdict to that effect was yesterday returned by a coroner's inquest.

On Tuesday a man named John Jones was killed at the blast-furnaces of Messrs. Groucutt, near Bilston, owing to an explosion, arising from the leaking of one of the tuieres. The deceased's duty was to watch the tuiere, and had he done so carefully his life would, probably, have been saved.

In the appeal against the conviction of the Darlston Steel and Iron Company, for an infraction of the Truck Act, Mr. Justice Blackburne has decided that the objection that the defendants could not be convicted because they are a company was frivolous, and dismissed a summons applied for by the defendants, with costs.

Mr. James Saunders, the owner of a colliery at Darlston, was on Monday convicted, on the information of Mr. Baker, the Inspector of Mines, leaving a shaft unfenced, and was fined 4L and costs. Mr. George Holl of the same place, was fined 2L 10s. and costs in each of two cases, for a like offence.

THE FACTORY ACTS EXTENSION BILL, AND THE IRON TRADE.

We alluded last week to the somewhat unsatisfactory state in which this matter rested, owing to the refusal of the Select Committee to receive evidence from the members of the iron, or other trades most seriously affected by the Bill. There is no doubt that the iron trade fully expected to be allowed an opportunity of submitting evidence, and, in fact, it was on this assumption entirely that they asked for the matter to be referred to a Select Committee. However, though the plan adopted by the Committee was not the one contemplated by the trade, and though they have been unable to lay before this body their views upon several of the more important points connected with the Bill, they have been able to represent by their parliamentary agent, Mr. Parkes, who has been heard, informally, on several occasions upon the "case" of the iron trade, and who has been in communication with Mr. Trevelyan and Mr. Thring during the entire period since the Bill was referred to the Committee. We are glad to find that nearly all the points raised by the iron trade have been conceded, which is conclusive evidence that the trade had good grounds for urgently pressing their objections upon the notice of the House. It was, from the very outset, clearly seen that the most important modifications would have to be introduced before the Bill could be practically worked in connection with the iron and engineering trades. From an examination of the re-committed Bill we find that several important changes have been brought in by the Committee. Some verbal alterations in the clauses relating to the definition of a "factory" have been made, but it is the schedule that the more important modifications are introduced. In the first place, we may allude to the fact that for the next two and a half years children above twelve years of age may be employed, subject to the same conditions as those laid down in the Bill for children over thirteen years of age, though it is not yet quite clear that this modification will apply to ironworks. For a similar period, male young persons above sixteen years of age may be employed in ironworks in the same manner as if they were over eighteen years of age. During the same period, women may be employed in connection with blast-furnaces without legislative interference. Amongst the permanent modifications we find the following:—The Secretary of State may give a license for the employment of young persons above sixteen years of age, overtime—extra work not to exceed fifteen hours in any one day, or twelve days in one month, or seventy-two days in one year. The provision about simultaneous meal hours, and the prohibition to take meals in places where any manufacturing process is being carried on, are made inapplicable to ironworks, and factories, certified by the Secretary of State. Young persons may, in ironworks, turn, and in blast-furnaces may take seven shifts per fortnight. In ironworks, when any process is incomplete at end of period for changing shift, a child or young person may be allowed to remain at work for a period not exceeding half an hour. The accident clause is modified with reference to ironworks. It is not necessary to give notice of an accident unless the person is prevented from returning to his work for a period of forty-eight hours from the period of the accident. The "actual employer" must report case to occupier of factory. The default is liable to be directly proceeded against by the Inspector. The Factory Acts Regulation 8, with respect to holidays, are not to be applicable to persons employed in day and night turns. Modifications as to the fencing of machinery may also be allowed by the Secretary of State. A surgical certificate may be invalid solely on account of the employment of the child or young person in a factory, other than that for which the certificate was originally granted. Where, in any factory, a sub-contractor carries on work by means of machinery, and employs young persons or children, he is to be deemed liable for all breaches of the Factory Acts for those in his employment.

From the above sketch it will be seen that, for the present at least, the points raised by the iron trade have been entirely, or almost entirely, conceded. With respect to the proposed modification in the age of "young persons" under this Act, only a temporary concession has been made. It is a general opinion, however, that in the session after next a motion will be made to consolidate the various Factory Acts, and there will then be an opportunity of going into this question again; and, doubtless, the trade will have ample opportunities of stating their views on this or other matters in the proposed Bill.

may be found impracticable, or which may require modification. The iron trade, collectively, owe it to the watchfulness and care of a few individuals connected with this industry that the Bill is likely to become law in a form which will not interfere unnecessarily with the details of manufacturing operations, and in one which will, for the present at least, put very few extra advantages in the hands of our foreign competitors. As we have repeatedly stated, the iron trade are as anxious as any body of manufacturers to promote and encourage scientific education; but they also maintain that the special circumstances of each industry shall be taken into account, and that thus every effort shall be made to place all upon the same level. This will be secured to a very great extent in the new Bill; and those who have given their constant attention to this matter are entitled to the thanks of the whole trade. If any errors have been made in the course of procedure, it must be remembered that they arose from the most unexpected course adopted by the Select Committee—a course which naturally gave rise to a fear that the case of the ironmasters might possibly be treated as an afterthought. Now the matter is for the present settled, we may, perhaps, be allowed to suggest that in future when a general trade movement has been made, no individual district should be left responsible for taking the necessary action in calling together the whole trade. Such a course looks as if the iron trade would be required to advance the interests of a section of the trade, and the consequence is that the national character of a question may be almost completely lost. The remedy for this would be to appoint a general committee, representing the iron trade of the country. This committee would be the chairman and secretary, and a general meeting of the trade would then be called until the representatives of each district had been consulted, and had been allowed an opportunity of discussing matters. The invitations would go out on the authority of this general body, and would command more attention than could any individual district. The resulting course of action would be a definite one, and the machinery would constantly be in readiness for attending to all subjects affecting the general interests of the trade. Of course, as no such action as this is in existence, the only plan which could be adopted in the present matter was for the leading district organisations to move, and to invite the co-operation of the principal members of the trade scattered about the country. There is no reason, however, why such a defective plan should have been adopted in any similar case. Were a few of the more influential ironmasters to take up this subject, we doubt not a valuable organisation might soon be arranged.

[A reference to recent accidents in North Staffordshire appears in another column of this day's Journal.]

THE PARIS EXHIBITION—No. XII.

[FROM OUR OWN CORRESPONDENT.]

Although hitherto less has been done toward the development of the MINERAL RESOURCES OF NOVA SCOTIA than of those of many other parts of North America, an examination of the collection exhibited at Paris will be sufficient not only to prove that there is no lack of minerals in the province, but also that there is an ample field for the profitable employment of British capital. Amongst the iron ores are some fine titaniferous iron-sands from various localities; magnetic iron, which is believed to exist in considerable quantities, as well as specular iron, brown hematite, the ores being rendered far more interesting than they otherwise would be by the specimens of iron and steel which they yield, and of cutlery manufactured from accompanying them. There are specimens of wad, manganese, pyrolusite, all of which are found in large quantities. Mineral waters exist in large quantities, and several colours and qualities are known, which have been extensively used, and found to answer admirably for both buildings and vessels. Native copper and ores of copper are also exhibited, but the country has not yet been sufficiently explored to permit a definite opinion to be formed. There are two minerals, however, which will probably make some noise hereafter, the one connected with the gypsum of Windsor, and proved by Prof. How to be natroboracalite, containing 44 per cent. of boracic acid, and the other cryptomorphite, which yields 59 per cent. Marbles, gneisses, clays, moulding sands, and various other stones applicable to industrial purposes are also shown, and make up a fine, though small, collection. I have made many enquiries, in the hope of discovering that the beautiful soft variegated slate exhibited could be applied to some commercially useful purpose, but can obtain no satisfactory answer. It has various concentrically arranged bands of different colours, and might, one would think, be successfully applied to purposes of ornamentation. It is quite as beautiful as the Alamy sands, but much less fragile, and it has been suggested if it could be supplied in large quantities at a cheap rate it might be used to manufacture time-piece frames, or brackets for the support of marble antepieces; but fears appear to be very generally entertained, as with almost as much ease as soapstone, that its use must be limited to purposes of pure ornament, where it will not be much subjected to wear.

NOVA SCOTIAN GOLD STATISTICS.—To ensure the portion of Nova Scotia exhibition representing her auriferous resources to be readily appreciated, the local Government have adopted the very excellent statistical table of Mr. A. HEATHERINGTON, and a tetraglot—English, French, German, and Spanish—edition of it, with a suitable introduction, has now been issued, for the benefit of visitors to the Exhibition. It is remarked that the mineral resources of Nova Scotia are destined to secure for her a prominent position among nations; but without some publicity and demonstration by figures, it would be useless to expect recognition by foreigners of those resources or their importance. The small gilt pyramid and the few, though rich, specimens of auriferous quartz sent to Paris but imperfectly represent the capabilities of Nova Scotia as a gold-producing country, whilst she also possesses mines of coal, iron, and other minerals; and, unlike most of the other rich mineral districts on the American continent, is free from pestilential diseases, from poisonous reptiles, from wild animals, and from treacherous Indians. The subjoined table shows the yield of gold from 1862 to 1866, both inclusive, for the several districts:—

District.	Miners employed.	Quartz raised, cwts., 100 lbs.	Gold obtained, Oz. dwt. gr.	Maximum yield per ton.	Value.
Antigonish	379,496	980,055	33,314 12 21	22 15 20	£137,978
Brookville	131,794	247,070	18,901 4 13	23 10 9	74,555
Harbour	99,862	287,191	12,451 19 20	73 18 9	52,400
Antigonish	96,328	174,483	9,697 19 17	9 18 0	40,166
Harbour	89,856	92,745	6,406 1 20	9 11 5	29,622
Antigonish	97,938	131,124	5,107 14 1	116 3 21	21,154
Harbour	115,060	74,232	2,907 9 15	10 9 7	12,042
Antigonish	68,588	33,742	2,819 9 15	6 2 11	11,676
Harbour	10,426	3,042	442 8 6	2 4 20	1,832
Antigonish	11,152	9,320	367 3 11	12 0 0	1,479
Harbour	1,120	2,970	139 17 12	10 1 14	579
Antigonish	1,326	2,170	72 16 9	10 0 0	302
Harbour	936	480	40 0 0	5 10 18	166
Total	1,107,106	2,088,947	91,968 10 16	116 2 21	£380,862

THE HICKS ENGINE.—In a former letter I mentioned the HICKS engine as being, next to the great American locomotive, the most beautiful machine in the Exhibition, and promised a mechanical description of it. It not unfrequently happens that the most simple machines are the most difficult to describe, and the HICKS engine seems to confirm this—there are scarcely a dozen separate pieces of metal connected with it, and it is not much more likely to get out of order than a gas-pipe; yet this very simplicity almost prevents accurate description. The engine really consists of four cylinders, placed two and two, parallel to each other, each pair being, as it were, a continuation of the other pair. Valve rods, packing boxes, eccentric rods, rock shafts, and reversing links may be disposed of at once, no such, in this engine, useless appliances being recognised, and to say this of a double engine, with action similar to that of a locomotive, would alone be a sufficient proof of its simplicity. The engine has two cranks, at right angles to each other, in the same shaft, which is furnished with bearings in a piece cast solid with the frame. With these cranks hollow pistons are connected, which reciprocate in the cylinders by the action of the steam, in the same manner as in the locomotive engine. The shaft is of the best wrought-iron, the crank discs are of iron, and the crank pins of best steel. The shaft is turned, the discs turned and bored, and the pins finished, pressed tightly together and keyed, and afterwards put in the lathe, the shaft turned again to finish. It is made of the same length as the connecting rods, and to drive two belts, dividing the shaft into two equal parts. The connecting rods are of cast-iron, with brass facings, and keys to take up the wear. When the engine is once finished it is impossible to get it out of line. The cylinders are bored in line, and on the same centre line; and as the cylinders are cast in one piece with the shaft bearings, it is obvious that if they are once true the pistons themselves act as valves. Each piston receiving steam when it is at the centre nearest to the cylinder head, is then suddenly cut off entirely from its supply, allowing the steam

to expand to the extreme end of its motion. Each piston forms a valve for the one next beside and parallel to it; the two on one side of the crank shaft admitting and releasing steam for each other, and those on the other sides doing the same; indeed, either pair will operate without the help of the others. The cylinders being placed side by side as close as possible, and in the same plane, passages are made for steam and exhaust leading directly from one to the other. The pistons are hollow, and are provided with ports in their circumference, which open into the passages between the cylinders when at half-stroke, connecting them with outside passages in the cylinders communicating with the boiler and air. When either piston is at half-stroke, that next to it is at one end of its stroke, ready to take or exhaust steam, and, consequently, it will be admitted and released at the right time. As each piston moves correctly for the admission of the steam to that next to it, so does each piston have the correct motion in itself to cut off its own supply; as the steam on its way to the cylinder head is allowed to pass through a channel in the piston itself, which, although wide open when it is admitted, is closed at any desired point on the forward motion, thus interfering with its flow, and cutting it off, as it is called. The exhaust steam passes through this channel, but from it through another and independent opening and passage, which is open during the whole return stroke, unless, if desired, it be partially closed to allow the piston to cushion steam at the end of its return stroke. The engine is reversed by a simple slide valve, which, when moved in one direction, admits steam from the boiler to one set of passages, and when moved in the opposite direction, admits it to the other set, or what has before been the exhaust set. It is found that cutting off the steam at half stroke gives the best result, economically, in these engines, as by that means one cylinder is always in full connection with the boiler, and one is acting under expansion. Throttling and wire-drawing the steam is a bad action, unless the valves are so arranged as to cut off at about half-stroke; for, as the piston moves slowly at each end of its stroke, the pressure of steam from the boiler, which is throttled by the governor and reduced while the piston moves fast, will fill the cylinder at full pressure when no cut-off is used, and so throw away the same amount of steam as if it had to be used at full pressure during the whole stroke, without getting any benefit from it; but when the engine cuts off at half-stroke, the steam enters the cylinder at full pressure on the centre, and is gradually reduced as the piston increases in speed until it is entirely cut off, obtaining all the economy resulting from cutting off short without the inconvenience of condensation in the cylinder.

The valve system employed in the Hicks engine has also many advantages. The valve lead for the steam and exhaust ports is done by putting a slight lap on the passage from the cut-off channel. The ports are opened much faster than by any ordinary slide valves, and open with so much accuracy that the exhaust goes out without back pressure, at any speed and at the proper time, exactly on the centre. By closing the channel port slightly before the piston reaches the end of its return stroke, any desired amount of cushioning may be obtained. The steam is not allowed to enter the centre chest where the crank shaft is. This centre chest is for the purpose of keeping the shaft and connecting rods from the dust and dirt, and to retain the water which comes from the pistons in the chest, to assist in lubricating the working parts, and in keeping the cylinders and pistons warm, to prevent the usual condensation of steam in the cylinders. As the ports are all placed in one-half of the circumference of the piston, and nearly all on the bottom, they are tight, and cannot leak steam any more than well-made slide valves—indeed, as far as the valve action is concerned, they are round slide valves, acting as pistons, cross-heads, and valves. The bearings are so long that any ordinary wear would not affect them, and the steam and water make such a perfect lubrication that the pistons soon become as bright and black as ordinary slide valves, and as little liable to wear as slide valves in that shaft, which is known to be very slight. There is precisely the same amount of friction on the piston as there is on the slides of an ordinary engine of the same stroke and power, but with greatly increased surfaces to sustain the wear; and by dispensing with the valves and other parts the friction is still further reduced. The pressure of the steam does not create friction. By the arrangement of ports, the pressure which is due to the exhaust ports or cup of the slide valve is entirely avoided, and the steam ports are placed so nearly opposite that they balance each other; the pressure, if any, being arranged to pass upwards, and lift the weight of the piston, and thus lessen the friction. The surface of the cylinder being exposed to the air does not expand quite as much as the pistons, which are always in contact with the steam, and thus the pistons always wear tight, and, after running a short time, make a perfect fit. The steam in the pistons acting as valves is not discharged at all, but is reserved to supply the next stroke, acting as a steam chest; it is not even expanded, but maintains its pressure ready for use. The steam in the cut-off channel is expanded, and is discharged as expanded steam; the only steam thrown away or wasted is in the short port between the cylinders, never more than 2 inches in length, and the inventors are enabled to use less clearance at the end of the piston, as there is no necessity for leaving room for the steam way, as in other engines; the channel in the piston taking its place, and leading the steam directly to the cylinder head without a circuitous route.

Large numbers of the engines have been manufactured by the Hicks Engine Company, of Liberty-street, New York, and in practice it is found best to make them with the same stroke as the bore, that being done for various reasons, as two cylinders and cranks acting together are, in starting force, equal to one cylinder with double the length of stroke; and as they are able to run each piston as fast as in the ordinary engine, and obtain double the revolutions, to use smaller pulleys and to obtain with the same bore and speed of piston, double the power; and while a single engine would not start at all when on its centre, this has no dead points—it has the same action as a locomotive, and although the force is not entirely uniform, it is so nearly so that it will start under a load at any point, and needs but little balance wheel force, even with the cut-off. These pistons, when acting together, are not much, if any, heavier than the piston rods, cross head, and connecting rod of an ordinary engine; but in neither case is there loss of power, excepting friction, as the force required to start the weight and to drive it up to its greatest speed is just equal to the force delivered by the piston to the crank in coming to rest; and particularly is this action desirable in a double engine, cutting off at half-stroke, as this weight reduces the necessity of a balance wheel, and takes its place on the last half of each stroke, making up the force lost by the reduction of the pressure of steam by expansion. The engine is lubricated entirely from the centre chest, falling being put in oil cups and allowed to drop on the crank; it then falls on the water always standing there, and is thence thrown over all the bearings into the piston, to the connecting rod ends, and over all the parts, by the motion of the cranks.

Royal Cornwall Polytechnic Society.

THE THIRTY-FIFTH ANNUAL EXHIBITION OF ARTS, MANUFACTURES, &c., will take place at the POLYTECHNIC HALL, FALMOUTH, on FRIDAY, August 23, and following days.

All articles intended for prize competition to be delivered (carriage paid) not later than Friday, August 16th. Inventions and improvements should be illustrated by accurate models or drawings, with explicit descriptions. Papers or essays competing for any of the prizes or premiums should be sent in on or before the last of August, so as to allow of time for perusal by the judges.

Any further information may be obtained either personally or by letter, on application to—
J. C. STEPHENS, Assistant Secretary,
Polytechnic Hall, Falmouth.

COAL CUTTING MACHINERY.—The WEST ARDLEY COMPANY having, by recently patented improvements, perfected their coal cutting machinery, worked by compressed air, are NOW READY TO MAKE CONTRACTS FOR THE CONSTRUCTION AND USE OF THEIR MACHINES.

The results of twelve months' experience in the working of these machines, by the West Ardsley Company, have proved most satisfactory, their use being found to CHEAPEN THE COST AND IMPROVE THE AVERAGE SIZE OF THE COAL, TO LIGHTEN THE LABOUR, and also to MODIFY THE SANITARY CONDITION OF THE MINE.

All communications to be made to Messrs. FIRTH, DONNISTHORPE, and BOWEN, No. 8, Britannia-street, Leeds.

NOTICE.—The WEST ARDLEY COMPANY, having reason to believe that their patents are being infringed upon, hereby give notice that they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may MAKE FOR SALE, OR USE ANY MACHINERY in the construction of which any such INFRINGEMENT is MADE.

RAILWAY WAGON WORKS, BARNSELY.

MESSRS. G. W. AND T. CRAIK
ARE PREPARED TO
SUPPLY COAL AND COKE WAGONS
OF EVERY DESCRIPTION,
Either for cash, or by preferred payments through wagon-leasing companies.
WAGONS PROMPTLY REPAIRED.

WILSON'S PATENT SMOKELESS FURNACE.

LICENSEES AND SOLE MANUFACTURERS:
HICK, HARGREAVES, AND CO., SOHO IRONWORKS, BOLTON.
These furnaces are now in full operation, and are giving most satisfactory results, both as regards economy in fuel, complete consumption of smoke, and small wear and tear of furnace. They may be seen in daily operation at these works.

PATENT IMPROVED PICKS,
FOR COLLIERIES AND MINERS.

For terms and information, apply to the patentees—
F. W. DAHNE, Engineer, Morriston, Swansea; or
DAVID THOMAS, Mineral Agent of the Governor and Company of
Copper Miners, Cwm Avon, Talbach.

GLAHOLM AND ROBSON,

HENDON PATENT ROPE, SUNDERLAND,
MANUFACTURERS OF ALL DESCRIPTIONS OF STEEL,
IRON, and HEMP ROPES FOR COLLIERIES, SHIPS, &c.

HERBERT AULT, ENGINEER,

DRAUGHTSMAN AND PATENTEE'S ASSISTANT,
VALUER OF MACHINERY, IRONWORKS, RAILWAY
and COLLIERY PLANT, and other works; DESIGNER and CONTRACTOR for every description of RAILWAY and COLLIERY PLANT, CONTRACTORS' and other LOCOMOTIVES, HOT AIR and HOT WATER APPARATUS, &c.

Preparer of models &c., for patentees, and every other assistance given upon the most moderate terms. Estimates given for taking down and erecting works and other machinery.

Applications addressed to HERBERT AULT, Netherton, near Dudley, will meet with prompt attention.

N.B.—HERBERT AULT begs to call the attention of gentlemen about to put up greenhouses or conservatories to his large assortment of designs at exceedingly low prices.

BAGILLT OIL COMPANY (LIMITED),

FLINT.
MANUFACTURERS OF BLACK GREASE
FOR COLLIERY WIRE ROPES, TRAMS, WAGONS, &c., £5 PER TON.
TORCH AND LAMP OIL, 1s. PER GALLON (Casks free).
LUBRICATING OIL, 1s. PER GALLON (Casks free).

BOWLING IRON COMPANY,

BRAADFORD, YORKSHIRE.
BEST CRUCIBLE CAST-STEEL TYRES, AXLES, CRANK
AXLES, BOILER PLATES,

Also COG WHEELS, and other CASTINGS.
This company is prepared to furnish the above-mentioned articles in CAST STEEL of a very superior quality, made principally from their own well-known "BOWLING IRON."

Also BOWLING WROUGHT-IRON SOLID WELDLESS TYRES, of any size and to any section.

STRONG WIREWORK, the cross wires equally bent; also BEST STAMP GRATES, both of iron and copper, and punched copper plates; DITTO TUBED. All the above promptly supplied at.

W. ESCOTT'S MINING MATERIAL DEPOT,

TAVISTOCK, DEVON.

THE VAL SASSAM MINES COMPANY (LIMITED).

Notice is hereby given, that the directors have THIS DAY made a CALL of TEN SHILLINGS PER SHARE, payable on the 23rd day of August next.

By order of the Board, W. G. WILLIAMS, Sec.

6, Queen-street-place, London, E.C., July 18, 1867.

THE AUSTRALIAN MINING COMPANY

(Incorporated under Royal Charter).
Notice is hereby given that the TWENTY-SECOND ANNUAL GENERAL MEETING of the shareholders of this company will be held at the London Tavern, Bishopsgate-street, E.C., on MONDAY, the 29th inst., at One o'clock P.M. precisely.

To receive the report, accounts, and balance-sheet for the past year.

To elect directors in lieu of Henry Collier, Esq., who retires by rotation, and to fill up the vacancy caused by the lamented death of Thomas S. Cutbill, Esq.

To fix the remuneration of the auditors for the past year.

To elect auditors for the present year.

U. P. HARRIS, Secretary.

No. 1, Coleman-street-buildings, Moorgate-street, London, E.C., July 11, 1867.

TAQUARIL GOLD MINING COMPANY (LIMITED),

IN THE PROVINCE OF MINAS GERAES, BRAZIL.

Capital, £100,000, in shares of £1 each.

2s. 6d. per share on application, 2s. 6d. per share on allotment.

No call to be made at a less interval than three months,

or to exceed 2s. 6d. per share.

CHAIRMAN.

H. BIRT, Esq., formerly of the St. John del Rey Mining Company.

BANKERS.

The Consolidated Bank (Limited), 52, Threadneedle-street, London, E.C.

BROKERS.

Messrs. Walker and Lumsden, 25, Abchurch-lane, London, E.C.

Messrs. G. and T. Irvine, India Buildings, Liverpool.

SECRETARY—Edward J. Cole, Esq.

OFFICES,—2, NEW BROAD STREET, LONDON, E.C.

Prospectuses and reports, containing the fullest information, to be had of the secretary, or the brokers of the company.

TAQUARIL GOLD MINING COMPANY (LIMITED).

Notice is hereby given that the LIST OF APPLICATIONS FOR SHARES will be CLOSED on WEDNESDAY, the 31st inst.

By order of the Board, EDWARD J. COLE, Secretary.

2, New Broad-street, London, July 19, 1867.

THE MID-WALES LEAD MINING COMPANY

(LIMITED).

Capital, £15,000, divided into 6000 shares of £2 10s. each.

Deposit—On application, 10s. per share, and upon allotment, 10s. per share.

No call will exceed 10s. per share.

DIRECTORS.

Col. BOULDERSON (late Madras Army), Southsea, Hants.

HAMERTON CRUMP, Esq. (Director of the Paraguassu Steam Tram-road Co., Limited), 117, Cannon-street, E.C. and Piccadilly, W.

WILLIAM J. LINDSAY, Esq. (Messrs. Grant, Kempshad, and Co.), 46, Lime-street, E.C.

JOSEPH NIGHTINGALE, Esq. (late H.M.'s Civil Service), 45, Cambridge-road, Kilburn.

JOB TAYLOR, Esq., Dixon's Green, Dudley (Chairman of the Central Snail-beach Lead Mining Company, Limited, and the Brynpostig Lead Mining Company, Limited).

No remuneration will be received by the directors until it is voted to them by the shareholders.

BANKERS.

The National Provincial Bank of England, Bishopsgate-street, London.

CONSULTING ENGINEER.

Capt. John Kitto (late of Great Laxey Mines), Shrewsbury.

SECRETARY—Mr. E. Houghton.

OFFICES,—3, KING WILLIAM STREET, CHANCERY CROSS, LONDON.

PROSPECTUS.

This company has been formed for the purpose of acquiring the leases and extending the works of a valuable lead mine, situated in the richest lead district in North Wales, long celebrated for its immense yield of lead ores.

The mine is situated in the parishes of Llangurig and Llandnam, in the county of Montgomeryshire, adjoins the Tylwch station of the Mid-Wales Railway, and is held under lease, upon very moderate terms, for 21 years.

A large amount of valuable work is already done, two rich lodes have been opened upon by means of adit levels, and a quantity of silver-lead ore obtained; the deepest level has been driven about 100 fms., and the end of it is now within a few fathoms of a rich bunch of lead which was discovered when sinking a small shaft on the top of the hill.

So satisfied are the present owners of the real bona fide value of this property, that they have agreed to sell their entire interest for the moderate sum of £6500; of this sum £500 only will be paid in cash, £5500 in fully paid-up shares, and the balance of £500 will be paid twelve months after registration of the company.

The Memorandum and Articles of Association contain no unusual clauses, and can be inspected at the offices of the company.

If no allotment is made the deposit will be promptly returned without deduction.

Applications for shares, with a cheque or Post-office Order for the deposit of 10s. per share, can be sent either to the bankers, brokers, or secretary.

No application for less than five shares will be entertained, and the allotments will be made according to priority of application.

Samples of the ores can be seen either at the offices or at the brokers.

Full prospectuses, with reports by Capt. John Kitto, late of the Great Laxey Mines, and Capt. Nancarrow, of the Silverstanes Mining Company (Limited), can be had on application to the Secretary at the company's offices.

TO MANUFACTURERS OF PATENT FUEL, FIRE-BRICKS, POTTERY, ARTIFICIAL MANURES, CEMENT, &c.

CARR'S PATENT DISINTEGRATOR,
For REDUCING to a FINE GRANULAR POWDER from 50 to 200 tons a day (according to size) of any UNFIBROUS MATERIALS, whether they be SOFT and CLOGGY, like superphosphate, wet clay, &c., or HARD and DRY, like bone ash, coprolites, burnt earthenware, minerals, coal, &c.; also for MIXING PURPOSES.

The aggregate work of the Disintegrators now in use already amounts to upwards of two millions of tons of material pulverised by them in a year, at a total saving to their users, in labour, power, &c., of above £30,000 per annum. It bears no resemblance whatever to any other mill in its peculiar combination and application of principles, nor yet in its mode of action and unique system of disintegrating matter, and has been proved to be the most novel, versatile, and efficient discovery in mills that has appeared since the invention of the flour-mills, upwards of thirty-three centuries ago.

An illustrated pamphlet, with full particulars of the above, and a long list of the addresses of its purchasers, will be forwarded, post free, on application to the Patentee, as below; and a 4-foot machine and model may be seen at the Paris Exhibition, British Section, Class 51.

THOMAS CARR, MONTPELIER, BRISTOL.

INDIA-RUBBER, GUTTA-PERCHA, AND TELEGRAPH WORKS COMPANY (LIMITED), MANUFACTURERS OF

VULCANISED INDIA-RUBBER
BUFFER SPRINGS FOR LOCOMOTIVES AND RAILWAY TRUCKS, VALVES, SHEET, WASHERS, SUCTION AND DELIVERY HOSE, TUBING FOR GAS, &c., MACHINE BELTING, ELASTIC STEAM PACKING in ROPE, SHEET, and RINGS, &c., &c.

EBONITE

SHEET, PUMPS, TAPS, TUBING, &c., for acids and vinegar; PHOTOGRAPHIC and SURGICAL ARTICLES, SPEAKING TUBING, &c.

GUTTA-PERCHA

SHEET, TUBING, PUMP BUCKETS, VALVES, MACHINE BELTING; VESSELS for chemicals and acids, &c.; WATERPROOF CLOTHING, HOT-WATER CUSHIONS, MATTING, GROUND SHEETS, APRONS, WAGON COVERS, &c., &c.

TELEGRAPH INSTRUMENTS,

INSULATORS, BATTERIES, INSULATED WIRE, and every description of TELEGRAPH APPARATUS and STORES.
Vulcanised India-rubber specially prepared to withstand the action of Tropical climates.

TO TIN-PLATE MANUFACTURERS.

PUGHSEY'S PATENT

FOR RECOVERY OF VITRIOL FROM REFUSE "PICKLE" OF TIN-PLATE WORKS, AND THEREBY PREVENTING THE POLLUTION OF RIVERS.

THIS SIMPLE, EFFECTUAL, INEXPENSIVE, AND PROFITABLE PROCESS has been adopted, and is now being used with great success, at the following tin-plate works:—Messrs. J. Y. and F. Mogridge, Caerleon Works; T. W. Booker and Co., Melin Griffith Works; Machen Tin-Plate Company; Pontypool Tin-Plate Company. Other works are preparing to adopt the patent, which is found to realise the following important advantages:—

It recovers and utilises from one fourth to one-third in quantity and value of all the vitriol used in "pickling" iron plates before "tinning."
The recovered vitriol is free from all injurious impurities; it improves the "pickle," and is more comfortably worked by the men employed.
A large quantity of saleable copperas is produced.
The direct advantages obtained in several large works, where three mills are used, are estimated as follows:—

One-fourth to one-third (dependent on kind of iron plates used, and care in concentrating) of 150 tons of vitriol recovered, at 7s. (say) a medium	£306 0 0
Copperas obtained, 300 tons at £1 5s.	375 0 0
Total	£681 0 0

Expenses attending the operation:—
One labouring man, of ordinary intelligence, at £1 per week (say) £50 0 0
Coal or breeze, 50 tons, at 6s. 15 0 0
Sundries, amply covered by 10 0 0 = £75 0 0
Net profit per year £606 0 0
Net profit per mill per year, £202 13s. 4d.
For prospectus and other particulars apply to Mr. W. J. PUGHSEY, Llan-tarnan, Newport, Monmouthshire.

MESSRS. J. EVANS AND CO., MANUFACTURERS OF MINERS' SAFETY LAMPS, &c., 15, HENRIETTA STREET, BIRMINGHAM.

IMPROVED APPLICATION OF WATER POWER.

THE TURBINE.

MAC ADAM BROTHERS AND CO., ENGINEERS, SOHO FOUNDRY, BELFAST, have been engaged for fifteen years, with complete success, in MANUFACTURING their IMPROVED TURBINES, and can recommend them with confidence.

This machine is applicable to all practicable heights of fall and quantities of water, giving a much higher percentage of power than any other description of water-wheel.

On low falls it has the additional advantage of not being affected by floods or backwater, and it is particularly well adapted for any falls where the quantity of water is variable.
Further particulars on application, also references to turbines now at work on a great variety of falls.

THE SEACOMBE FORGE RIVET AND BOLT COMPANY MANUFACTURERS OF

BOLTS RIVETS, WASHERS, COACH SCREWS, SPIKES, SET PINS, TIE RODS, COTTER PINS, &c.; ALSO,

ENGINEERS' AND SHIPBUILDERS' FORGINGS, SMITHS' WORK, and every description of SHIPS' FASTENINGS.

WORKS.—SEACOMBE, NEAR BIRKENHEAD.

THE CORNWALL BLASTING POWDER COMPANY,

ST. ALLEN GUNPOWDER MILLS, TRURO.

MANUFACTURERS OF PATENT BLASTING POWDER, ORDINARY GUNPOWDER, AND WATERPROOF SAFETY BLASTING CARTRIDGES.

THE CORNWALL BLASTING POWDER COMPANY SOLICIT PARTICULAR ATTENTION to their PATENT BLASTING POWDER, which has now been fully tested by time, and the growing estimation in which it is held by working men proves its great superiority over ordinary gunpowder.

It possesses the following advantages:—
Its WEIGHT being about TWENTY-FIVE PER CENT. LESS than ORDINARY GUNPOWDER, and EQUAL in STRENGTH, bulk for bulk, an IMPORTANT SAVING is EFFECTED on the score of CONSUMPTION.

It creates, on explosion, only about ONE-HALF as much SMOKE as ORDINARY GUNPOWDER, and this smoke being of a lighter nature soon passes away, and an IMPORTANT SAVING is thus EFFECTED on the score of TIME.
It is ADAPTED to ANY CLIMATE, DOES NOT BECOME WASTEFUL by EXPOSURE to the ATMOSPHERE, is NOT MORE DANGEROUS in use than ORDINARY GUNPOWDER.

Testimonials forwarded on application.

Swan Rope Works.

GARNOCK BIBBY, AND CO., CHAPEL STREET, LIVERPOOL.

MANUFACTURERS OF FLAT and ROUND HEMP and IRON and STEEL WIRE ROPES for MINING, RAILWAY, and SHIPPING PURPOSES. MANILLA ROPE OF SUPERIOR QUALITY, FIFTY PER CENT. STRONGER and THIRTY PER CENT. CHEAPER than Russian hemp rope. WIRE ROPE OF FIRST QUALITY WIRE, and the HIGHEST STANDARD OF STRENGTH.

DERING'S PATENT ENGINE FOR TUNNELLING

MINING, QUARRYING, and BLASTING in OPEN CUTTING.

A SAVING OF THIRTY to SIXTY PER CENT. in labour effected where the cost of adit exceeds £200 per foot.
TIME for DRIVING ADIT REDUCED FIFTY to SEVENTY-FIVE per cent.

"These drilling engines are in daily use at the zinc mines of the Vieille Montagne," &c.—Times, Dec. 24, 1866.
"One of these machines was shown to work in an exceedingly satisfactory manner upon hard granite," &c.—Engineering, Dec. 21, 1866.

Particulars may be obtained of Mr. DERING, or Mr. GROVER, 30, Duke-street, Westminster.

NITRO-GLYCERINE, OR NOBEL'S PATENT BLASTING

OIL.—THE EXPLOSIVE FORCE of this BLASTING OIL is TEN TIMES that of GUNPOWDER, and the ECONOMY and SAVING in TIME, LABOUR, and COST in removing granite and hard rock, in sinking shafts, driving tunnels, and opening forward in close ends is immense.

It will not explode from a spark or fire, but from concussion alone, and is consequently much less dangerous than gunpowder or gun-cotton.
Being heavier than water it sinks to the bottom of a wet hole, no other tamping than water being required.

One charge of this blasting oil, which is now being used with wonderful effect in all the largest slate quarries in North Wales, will displace as much slate rock as four or five charges of gunpowder; and its great force, acting on a large quantity of good slate rock, shakes and displaces it at the natural joints, or cracks, without damaging the slate nearly so much as the more numerous blasts from any other blasting material would do.

This invaluable quarrying agent may now be obtained from Messrs. WEBB and Co., Carnarvon, sole consignees from the patentees.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN THE MATTER OF THE COMPANIES ACT, 1862, and of the WHEAL HARTLEY MINING COMPANY.—TO BE SOLD, under the direction of the Registrar of the said Court, BY PUBLIC AUCTION, on Monday, the 5th day of August next, at Twelve o'clock at noon, at WHEAL HARTLEY MINE, in the parish of Gwinear, within the said Stannaries, either together or in lots, the MINE SETT or GRANT of the said company, and the undermentioned MINING MACHINERY and MATERIALS, namely:—
ONE STEAM PUMPING ENGINE, 40 inch, 9 feet stroke, equal beam, with rod (almost new), boiler and fittings; capstan and shears.
The materials may be inspected at any time prior to the sale, on application to Mr. WILLIAM IBBOTT, in charge thereof.
HODGE, HOCKIN, and MARRACK, Solicitors, Truro.
Dated Registrar's Office, Truro, July 18, 1867.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN RE NORTH PHOENIX MINE.

TO BE SOLD, pursuant to an Order made in a Cause Dingle v. Chaplin, dated the 25th day of June last, at the Registrar's Office, Truro, on Wednesday, the 31st day of July instant, at One o'clock in the afternoon precisely, the
18 (4000ths) PARTS or SHARES of the defendant,
Of and in the said MINE.
J. G. CHILCOTT, Truro
(Agent for C. Childe, Plaintiff's Solicitor, Liskeard).
Dated Registrar's Office, Truro, July 18, 1867.

DEVON.

FURZE HILL WOOD MINE, HORRABRIDGE, NEAR TAVISTOCK.

MR. W. J. MAY WILL SELL, BY AUCTION, at the Roborough Inn, Horrbridge (on such conditions as will be produced), on Tuesday, the 30th of July inst., at Three o'clock P.M., in One Lot, the LEASE of the above MINE, together with the very valuable MACHINERY thereon, viz:—
A very superior 24 inch cylinder ROTARY ENGINE, with BOILER about 10 tons, one fly-wheel 24 ft. diameter, sweep rod and other connections, all of the best construction and in excellent condition; one cast-iron stamp axle carrying twelve heads, iron lifters with frames complete, in good working order; one crab winch, shears, poppet heads, several flat rods, angle and balance bob, pulleys, stands and wheels, two 4-ft. and other shies; 70 fms. of 7, 8, and 10 in. pitwork; 40 fms. of 7-in. wood rods, plates, pins, staples and glands; 130 fms. best whim chain; several kibbles; three tram wagons; 300 fms. train iron, screw stocks, grindstone, bellows, vice, smother and miners' tools, two good blocks, hand screw; beam, scales and weights; a quantity of old iron; dressing-floors, with biddles, &c.; one water-wheel to work round biddles; dressing tools, &c.; one water-wheel, 30 ft. by 3 ft. 6 in., with a first-class new drawing machine; a 12 head stamp, with iron lifters, large and small launders, and the usual requisites of a tin mine.
For viewing the same apply on the mine; and for further particulars to the Auctioneer, 4, Mutley-place, Plymouth.

At the above mine sufficient ore is now being raised to pay labour cost. The pit, which is of first-rate quality, is in rare working order; and the principal difficulties incident to mining, and after future overcoming, an opportunity is now offered to capitalists rarely to be met with.
4, Mutley-place, Plymouth, July 5, 1867.

TO IRON AND COALMASTERS.

IMPORTANT IRONWORKS AND COLLIERIES FOR SALE, IN THE SOUTH STAFFORDSHIRE DISTRICT.

MESSRS. JOSEPH COCKSEY AND SON WILL SELL, BY AUCTION, at the Hen and Chickens Hotel, Birmingham, on Thursday, the 1st day of August, 1867, at Five o'clock in the afternoon, the undermentioned VALUABLE ESTATES, at OLDBURY, near BIRMINGHAM, in the following or such other lots as may be agreed upon at the time of sale, and subject to such conditions as will be then produced:—

LOT 1.—All those FOUR BLAST FURNACES, with BLAST ENGINES, HOT BLAST APPARATUS, and DRAUGHT LIFT, capable of producing 800 tons of pig-iron per week, together with FURNACE INCLINE and ENGINE, commodious coke and calcining hearths, and deposit room for cinders, tramways, canal basins and wharves, offices, fitting-shops, foundry, stables, manager's house, and other necessary erections and extensive frontages to the Birmingham Canal. Also several pairs of pit shafts, TWO STEAM ENGINES, and other colliery plant and erections, with land appurtenant thereto, comprising altogether an area of 25a. 0r. 16p. of surface LAND, or thereabouts, late in the occupation of William Bennett, Esq., together with the MINES and MINERALS hereunder; and also all the MINES in and under lands belonging to Mr. P. W. Bennett, except the mine of clay, part of the Birmingham Canal, and a moiety of the turnpike-road and Furnace-street, adjoining the property, containing together an area of 6a. 2r. 36p. The land has good frontages to the turnpike-road from Dudley to Birmingham, and to Furnace-street, and is well adapted for sites for iron and other works requiring canal accommodation.

LOT 2.—All that COLLIERY at ROWAY LANE, OLDBURY, in the county of WORCESTER, with the STEAM ENGINE, COLLIERY ERECTIONS, PIT SHAFTS, LAND, and PREMISES, late in the occupation of Messrs. Partridge and Turnley, containing, with the sites of dwelling-houses and premises hereinafter mentioned, 9a. 3r. 22p., or thereabouts, together with the ungoten MINES and MINERALS thereunder. And also all those TWO DWELLING HOUSES, LAND, GARDENS, and PREMISES thereto belonging, in the respective occupation of Hannah Payne and Thomas Boswell.

Parts of both lots are of freehold tenure, and the remaining parts thereof are of copyhold tenure, of the Manor of Oldbury.

For an order to view, apply to Mr. JAGGER, bank manager, or Mr. CHAMBERS, timber merchant, both of Oldbury; and for further particulars and plans to Messrs. BOURNE and OWEN, Solicitors, Dudley; Messrs. INGLEBY, WEAVER, and EVANS, Solicitors, Birmingham; or the Auctioneers, at West Bromwich.

ABERNANT IRONWORKS, GLYNNEATH, GLAMORGANSHIRE.

THE STEAM-ENGINES, and other MOVEABLE PLANT and EFFECTS, WILL BE OFFERED FOR SALE, BY AUCTION, at the works, by Mr. J. M. LEEDER, on Thursday, the 8th day of August, and following days.

Catalogues may be obtained on application to Mr. HENRY ALLEN, Neath Abbey, Neath; or of the Auctioneer, 16, Caer-street, Swansea.

IN THE COURSE OF THE MONTH OF FEBRUARY, 1868, on a day to be fixed hereafter, will be PUBLICLY SOLD, to the highest bidder, by the COMPANY FOR THE PROMOTION OF OPENING MINES IN NETHERLANDS INDIA, in liquidation, and after future approval by Government,

THE CONCESSION FOR THE WORKING OF THE COAL MINES AT BANJOE-IRANG (KALANGAN), situate in the residency south, and eastern division of BORNEO, together with the WORKS at the MINES, erected by the company, in such condition as they may be found on being taken over.

Information can be obtained at Amsterdam, from Messrs. HEEREN and Co., whilst the original documents are kept for investigation at the office of Messrs. TIEDEMAN and VAN KEECHEM at this place.

J. J. BLANCKENHAGEN, G. A. DE LANGE, D. JANNETTE WALEN.
Batavia, 12th April, 1867.

LATCHLEY CONSOLS AND SOUTH WHEAL MARIA MINES.

FOR SALE, BY PRIVATE CONTRACT, the LATCHLEY CONSOLS AND SOUTH WHEAL MARIA MINES, CALSTOCK, CORNWALL, with a 50-in. cylinder PUMPING ENGINE, HAULING MACHINE, and MATERIALS, all in complete working order.

To view the same, and for further particulars, apply to Capt. JAMES RICHARDS, Devon Great Consols, Tavistock.

Offers for purchase will be received by Messrs. BARLOW and SMITH, solicitors, 39, Waterloo-street, 4 Birmingham, up to 3d August next.

FOR SALE, and may be seen at the Ashburton Mines, ONE 56 in. PUMPING ENGINE, with TWO 11 ton CORNISH made BOILERS. ONE 40 in. PUMPING ENGINE, only made a short time, and as good as new, with an 11 ton BOILER. A 24 in. WHIM ENGINE, with stamps attached. ONE 11 ton BOILER. Several WATER-WHEELS of various sizes, one with a very excellent drawing machine attached. Pumps and materials of all sorts and sizes.—Application may be made to Mr. W. MATHEWS, engineer, Tavistock, or as be seen on application to people in charge of the mine.

TO BE SOLD, at the SEVERN COPPER AND LEAD MINES, near LLANIDLOES, for £200, all that new and substantial and well-built MACHINERY, consisting of:—
ONE WATER-WHEEL, 45 feet high, about 4 feet 6 inches breast;
DRAWING MACHINE, under the best principle;
ONE STEEL WIRE ROPE, 400 fathoms long, 3/4 in. diameter, and
ONE CAPSTAN.

The other machinery is open for offers for further portions.

For a view the same, address to JOSEPH JUKES, Birkenhead; or apply upon the works.

TO BE DISPOSED OF, the HALF of a COLLIERY, situated in the thriving town of FLINT, and in the immediate vicinity of several extensive and well-known chemical works. The colliery is now open and in working order, and several seams of coal have been proven.

For further particulars, apply to Mr. JOSEPH HALL, Flint, North Wales.

STEAM-BOILERS made by WILLIAM WILSON, LILYBANK BOILER WORKS, GLASGOW, on the most improved principles, for home and export. All boilers made of the best material and workmanship, proved and warranted tight under a high pressure, and delivered at any railway station or shipping port in the kingdom at moderate rates. Lithograph of boilers forwarded post-free on application.

ANALYSES OF COAL, CANNEL, MINERAL OILS, and all OIL PRODUCING MINERALS are UNDERTAKEN by
A. NORMAN TATE, F.A.S.I., &c.,
ANALYTICAL and CONSULTING CHEMIST, and CHEMICAL ENGINEER
(Author of "Petroleum and its Products," &c.),
M.O.I.D., NORTH WALES.

Plans and estimates for oil and chemical works prepared, and their erection superintended.

Assays of metals and their ores carefully conducted.

NICHOLLS, MATHEWS, AND CO., ENGINEERS, BEDFORD IRONWORKS, TAVISTOCK.

MANUFACTURERS OF STREAM ENGINES OF EVERY DESCRIPTION, made on the BEST and NEWEST PRINCIPLES. We beg more especially to call the attention of the public to the MANUFACTURE of our BOILERS, which have been tested by most of our leading engineers. PUMP WORK CASTINGS OF EVERY DESCRIPTION, both of brass and iron. HAMMERED IRON and HEAVY SHAFTS OF ANY SIZE. CHAINS made of the best iron, and warranted. MINERS' TOOLS and RAILWAY WORK OF EVERY DESCRIPTION. ALL ORDERS FOR ABROAD RECEIVE THEIR BEST ATTENTION. NICHOLLS, MATHEWS, and Co. have had 20 years' experience in supplying machinery to foreign mines, and selecting experienced workmen to erect the same, where required.

Messrs. NICHOLLS, MATHEWS, and Co. have always a LARGE STOCK of SECOND-HAND MINING MATERIALS in stock, and at moderate prices.

FOR SALE.—A LIFT of 16-in. PUMPS and BOTTOMS, all in excellent order; a quantity of hammered iron STRAPPING PLATES, all in excellent condition. Also, a 40-in. PUMPING ENGINE, only worked a few months; and a WATER-WHEEL, nearly new.—Application to NICHOLLS, MATHEWS, and Co., Bedford Ironworks, Tavistock.

WILLIAMS'S PERRAN FOUNDRY COMPANY, PERRANARWORTH, CORNWALL.

MANUFACTURERS OF STREAM PUMPING and EVERY OTHER KIND of ENGINES, together with BOILERS, PUMP CASTINGS, and MINING TOOLS of every description, of the very best quality. Estimates given for the supply of any amount of machinery.
London Agent.—Mr. EDWARD COOKE, 76, Old Broad-street, London, E.C.

RAILWAY CARRIAGE COMPANY (LIMITED) ESTABLISHED 1847.

OLDBURY WORKS, NEAR BIRMINGHAM.
MANUFACTURERS OF RAILWAY CARRIAGES and WAGONS, and EVERY DESCRIPTION of IRONWORK.
Passenger carriages and wagons built, either for cash or for payment over a period of years.

RAILWAY WAGONS FOR HIRE.
CHIEF OFFICES.—OLDBURY WORKS, NEAR BIRMINGHAM.
LONDON OFFICES.—6, STOREY'S GATE, GREAT GEORGE STREET, WESTMINSTER.

STAFFORDSHIRE WHEEL AND AXLE COMPANY (LIMITED),

MANUFACTURERS OF RAILWAY CARRIAGE, WAGON, and CONTRACTORS' WHEELS and AXLES, and other IRONWORK, used in the CONSTRUCTION OF RAILWAY ROLLING STOCK.

OFFICES AND WORKS,
HEATH STREET SOUTH, SPRING HILL, BIRMINGHAM.

THE BEVERLEY IRON AND WAGON COMPANY (LIMITED).

MANUFACTURERS OF RAILWAY CARRIAGES and WAGONS, WROUGHT and CAST IRON CARRIAGE and WAGON WHEELS, AXLES, HAMMERED IRON, and HEAVY SMITHS' WORK FOR ENGINEERS, &c. BRASS and IRON FOUNDRERS. MAKERS OF PORTABLE FARM RAILWAYS, TURN-ABLES, CROSSINGS, SWITCHES, &c. AGRICULTURAL MACHINISTS. MANUFACTURERS OF FIELD, ROAD, and BARN IMPLEMENTS, PATENT LORRY, CART, and CARRIAGE WHEELS, with WOOD or IRON NAVES. REAPING MACHINES, CLOD CRUSHERS, CORN MILLS, &c. SAW MILL PROPRIETORS. GENERAL TIMBER CONVERTERS for home and foreign RAILWAYS, STATIONS, BARRACKS, EXHIBITIONS, &c.

IRONWORKS BEVERLEY, YORKSHIRE.

THE BIRMINGHAM WAGON COMPANY (LIMITED)

MANUFACTURE RAILWAY WAGONS OF EVERY DESCRIPTION, for HIRE and SALE, by immediate or deferred payment. They have also wagons for hire capable of carrying 6, 8, and 10 tons, part of which are constructed specially for shipping purposes.

Wagons in working order kept maintained by contract, EDMUND FOWLER, Sec.

WAGON WORKS.—SMETHWICK, BIRMINGHAM.

Loans received on Debenture; particulars on application.

London Agent.—Mr. E. B. SAVILE, 67, Victoria-street, Westminster, S.W.

ROCHSOLES GAS COAL.

Yielding 12,000 cubic feet of gas per ton.
Price, in trucks, Airdrie Station, 25s. per ton; and 27s. 6d. f.o.b. Glasgow, or East Coast of Scotland. For analysis, &c., apply to
JAMES STRUTHERS,
ROCHSOLES COLLIERY, AIRDRIE.

UTILISATION OF COAL DUST.

BARKER'S PATENTS.

THE LONDON PATENT COAL COMPANY (LIMITED) having arranged with the patentee for the exclusive right to these patents within the United Kingdom, desire to call the attention of coal owners, ironmasters, and others, to the value of the invention by which the waste and small coal can, by a simple and inexpensive process, be rendered available for all the ordinary uses of the coal from which it is derived.

A series of careful experiments have been made on the Monmouthshire Railway with fuel manufactured from the Riebau Black Vein Coal (formerly in locomotives working heavy mineral trains over severe gradients, by which it has been ascertained that increased duty was obtained from the fuel over the same coal. The results of these experiments are so satisfactory that Mr. Alex. Bassett, C.E., of Cardiff, has consented to act as the company's representative for granting licenses in South Wales, and will be happy to reply to all enquiries and give full explanation respecting the trials that have been made under his superintendence. Mr. Thomas D. Clare, of Birmingham, has also undertaken to represent the company in the Midland Counties, and large works are in course of erection in the Forest of Dean by the company's licensees there.

The company are prepared to grant licenses for the use of their patents, and from the success which has attended the manufacture at their own works, and the extraordinary popularity of the fuel for retail purposes among the lower classes, they believe that in every populous town a large and highly profitable trade may be carried on.

The cost of the ingredients used in the manufacture does not exceed 1s. per ton; they contain no pitch, tar, or other noxious substance, and the manufacture is not more expensive than ordinary brick-making.

The blocks are available for every purpose of ordinary coal, and stow in one-fourth less space (1 ton of fuel occupying 33 cubic feet only, as against 43 Admiralty measurement for coal).

The cost of the machinery, &c., necessary for the production of 100 tons daily will not exceed £700.

Experiments have for some time past been in progress at Woolwich with the view to render petroleum and other analogous oils available for use under steam-boilers. The patentee's attention being directed to this fact, he found that the company's fuel, being porous, would rapidly absorb these oils, 1 ton of fuel taking up 50 gallons. This absorption does not in any way affect the solidity of the blocks, and it is believed they are the best medium for the purpose yet discovered, and that the fuel oil bricks will be an immense advantage to ocean steamers and vessels of war, on account of the vast saving in stowage and their steam-producing powers. The Admiralty have just granted permission for an official trial of the company's fuel to be made at Woolwich.

The value of the company's patents to all coalowners must be at once apparent. It is also of especial value to ironmasters; and, where the slack is used for coking purposes, the process may be adopted to advantage in roughly amalgamating the coal into blocks before placing it in the ovens. These blocks require no previous drying, and produce more coke and of better quality.

The company will be happy to receive specimens of coal dust at their North Fleet Works, which will be manufactured and reported upon free of charge, and they will send a competent person to manufacture a small quantity of fuel at any colliery where the experiments may be desired.

For further particulars respecting license, terms, &c., apply to the company's representative in their respective districts, or to the Managing Director, 25, Martin's-lane, Cannon-street, E.C., London. By order,
EDWIN W. GLOVER, Secretary.

FRANCE AND BELGIUM.

BARKER'S FUEL PATENTS.

For all information apply by letter to HAMMOND and SON, No. 26, Cornhill, London.

N° 31 APPLEBY'S SOVEREIGN PUMP, and other LIFT or FORCE PUMPS, with their PATENT CONICAL VALVES

and imperishable packings, are simple, durable, effective, easily fixed. Suitable for deep or shallow wells, for house, agricultural, or manufacturing purposes. Will pump hot water, alkalies, and other chemicals which destroy ordinary pumps. From 20s. each.

APPLEBY BROTHERS, Emerson-street, Southwark or of all ironmongers and plumbers.

BASTIER'S CHAIN PUMP.—This patent pump is the MOST EFFICIENT in existence for LIFTING ANY QUANTITY of WATER from ANY DEPTH. One lifting from a depth of 170 ft. may be seen at work daily, on application to the

Sole Licensees,
MESSRS. J. JACKSON and CO., ENGINEERS, 17, GRACECHURCH STREET, LONDON, E.C.
Who SUPPLY PUMPS and LICENCES.

Communications to Mr. Bastier, the patentee, to be sent to the same address.

AGENT FOR THE COUNTIES OF NORTHUMBERLAND and DURHAM, YORKSHIRE, DERBYSHIRE, and NORTH STAFFORDSHIRE,
Mr. THOMAS GREENER, MINING OFFICE, NORTHG

20, 1867.

BICKFORD'S PATENT SAFETY FUSE
 THE PRIZE MEDALS at the ROYAL EXHIBITION of 1861; at the
 INTERNATIONAL EXHIBITION of 1862, in London; at the IMPERIAL EX-
 HIBITION held in Paris, in 1865; and at the INTERNATIONAL EXHIBI-
 TION, in Dublin, 1865.

BICKFORD, SMITH, AND CO.,
 of TUCKINGMILL, CORNWALL, MANUFACTURERS of PATENT SAFETY-FUSE, having been in-
 formed that the name of their firm has been attached to
 fuse not of their manufacture, beg to call the attention of
 the trade and public to the following announcement:—
 EVERY COIL of FUSE MANUFACTURED by them
 CARRIES THREE PASSING THROUGH THE COLUMN OF
 BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SE-
 PARATE THREADS AS THEIR TRADE MARK.

PRENTICE'S GUN COTTON
 COMPRESSED CHARGES
 FOR MINING AND QUARRYING.

The principle thus introduced insures the most perfect attain-
 ment of the points essential for the safety and stability of the
 material, at the same time securing the highest effective power.
 A charge of any given size exerts six times the explosive force
 of gunpowder.

The enormous power confined in a short length at the bottom
 allows of a much greater amount of work being placed before each
 charge considerably in the labour of drilling.
 The charges are made of every diameter required, the length varying with the
 diameter. Any number may be placed in a hole. Each charge is fully equal to
 a pound of powder.

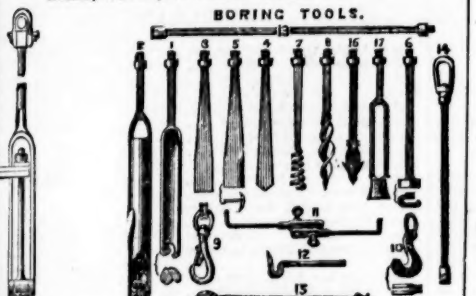
PRICES.
 Case, containing 500 charges of any diameter 35s.
 Case, containing 250 charges of any diameter 18s.
 Quarter case, containing 125 charges of any diameter 9s.
 Terms, cash.
 MANUFACTURED BY
PRENTICE AND CO., 82, GRACECHURCH STREET, LONDON.
 WORKS, STOWMARKET.
 LONDON AGENT, MR. THORNE.

JOHN AND EDWIN WRIGHT,
 PATENTERS.
 (ESTABLISHED 1770.)
 MANUFACTURERS OF EVERY DESCRIPTION OF
 IMPROVED

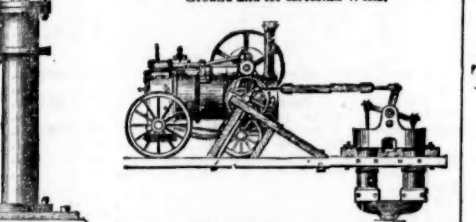
FLAT AND ROUND WIRE ROPES,
 From the very best quality of charcoal iron and steel wire.
FLAT AND ROUND HEMP ROPES,
 SINGING, SIGNAL AND FENCING STRAND, LIGHTNING CON-
 DUCTOR, STEAM PLOUGH ROPES (made from Webster and Horsfall's
 twisted wire), HEMP, FLAX, ENGINE YARN, COTTON WASTE,
 TARPULING, OIL SHEETS, BRATTICE CLOTHS, &c.

UNIVERSE WORKS, MILLWALL, POPLAR, LONDON.
UNIVERSE WORKS, GARRISON STREET, BIRMINGHAM.
 No. 2, OSWALD STREET, GLASGOW.
 OFFICE No. 5, LEADENHALL STREET, LONDON, E.C.

JOHN AND CO. (LATE CLINTON AND OWENS),
 WHITEFRIARS STREET, FLEET STREET, LONDON, E.C.,
 HYDRAULIC AND GENERAL ENGINEERS,
 MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION FOR HAND,
 HORSE, WATER, OR STEAM POWER.



Boring Tools of every description, for Testing
 Ground and for Artesian Wells.



Portable Engines with Double Barrel, or other
 Pumps, on Hire or Purchase.

Drawings, Price Lists, &c., relating to the above, and to Hydraulic
 and all descriptions—Crabs, Pulleys, Blocks, and Hoisting Tackle of superior
 quality—may be had on application.

Steam Cranes—Paris Exhibition.
 The ONLY MEDAL for STEAM CRANES

Was awarded to
APPLEBY BROTHERS,
 EMERSON STREET, SOUTHWARK,
 LONDON, S.E.,
 Makers and Patentees of

STEAM CRANES,
 Hydraulic and Hand Cranes, Derricks, Ships' Winches,
 Hoists, Travellers, and all kinds of Lifting Machinery,
PATENT STEAM PUMPS, or
DONKEY ENGINES.

These pumps are cheap, durable, and extremely sim-
 ple. May be fixed vertically or horizontally, and are
 applicable for lifting and forcing hot liquors.

PRICES.
 Nos. 1 2 3 4 5
 Dia. of ram 1 1/2 in. 2 in. 2 1/2 in. 3 in. 3 1/2 in.
 Gall. per hour 230 400 680 850 1200
 H.P. of boiler 15 25 40 50 80
 Price £10 5 £12 10 £15 £18 £21

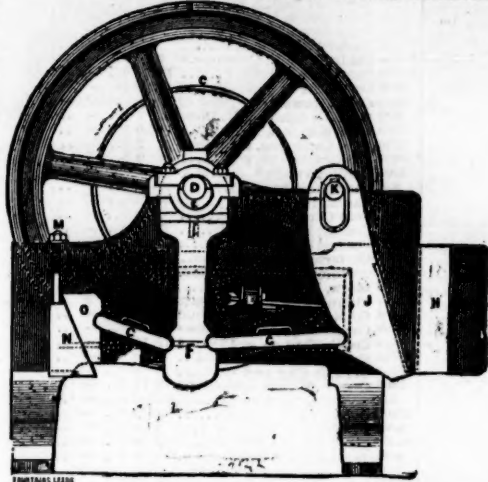
MAS TURTON AND SONS,
 MANUFACTURERS OF
 CAST STEEL FOR PUNCHES, TAPS, and DIES,
 TURNING TOOLS, CHISELS, &c.
 CAST STEEL PISTON RODS, CRANK PINS, CON-
 NECTING RODS, STRAIGHT and CRANK
 AXLES, SHAFTS and
 FORGINGS of EVERY DESCRIPTION.
 DOUBLE SHEAR STEEL
 BLISTER STEEL
 SPRING STEEL
 GERMAN STEEL,
 Locomotive Engine, Railway Carriage and Wagon
 Springs and Buffers.

WORKS AND SPRING WORKS, SHEFFIELD.
 ARNHOUSE, 35, QUEEN STREET, CANNON STREET, CITY, E.C.,
 the largest stock of steel, dies, tools, &c., may be selected from.

BERT LIBBY AND SON,
 MINE and SHAREDEALERS, &c.,
 CAMBORNE, CORNWALL.

IMMENSE SAVING OF LABOUR.
TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT
GRINDERS, MOADAM ROAD MAKERS, &c., &c.
BLAKE'S PATENT STONE BREAKER,
 OR ORE CRUSHING MACHINE,
 FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.

It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and
 throughout the United States and England. Read extracts of testimonials:—



The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had
 one of your stone breakers in use during the last twelve months, and Captain
 Morcom reports most favourably as to its capabilities of crushing the materials
 to the required size, and its great economy in doing away with manual labour.
 For the Parys Mining Company, JAMES WILLIAMS.

H. R. Marsden, Esq.
Atkell Emery Works, Manchester.—We have used Blake's patent stone breaker
 made by you, for the last 12 months, crushing emery, &c., and it has given every
 satisfaction. Some time after starting the machine a piece of the moveable jaw
 about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of
 the machine to the size fixed for crushing the emery.
 H. R. Marsden, Esq. THOS. GOLDSWORTHY & SONS.

Welsh Gold Mining Company, Dolgelly.—I at first thought the outlay too much for so
 simple an article, but now think it money well spent. WILLIAM HUNT.

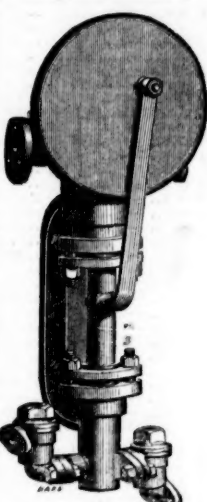
Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes,
 for fine road metal, free from dust. Messrs. ORR and MADDISON,
 Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons
 of limestone or ore per day (10 hours), at a saving of 4d. per ton.
 JOHN LANCASTER.

Oreoca, Ireland.—My crusher does its work most satisfactorily. It will break
 10 tons of the hardest copper ore stone per hour. W. G. ROBERTS.

General Fremont's Mines, California.—The 15 by 7 in. machine effects a saving
 of the labour of about 30 men, or \$75 per day. The high estimation in which
 we hold your invention is shown by the fact that Mr. Park has just ordered
 three machines for this estate. SILAS WILLIAMS.

For circulars and testimonials, apply to—
H. R. MARSDEN, SOHO FOUNDRY,
 MEADOW LANE, LEEDS,
 ONLY MAKER IN THE UNITED KINGDOM.



FRONT ELEVATION.

THE NEW PATENT INJECTOR,
 FOR FEEDING BOILERS AND RAISING WATER FOR OTHER PURPOSES.

PRICES, DELIVERED IN LONDON:—									
Size.	Ram.	Stroke.	Approx. horse-power	Approximate gallons thrown per hour.					Price.
No. 4	in.	in.	boiler supplied.	At 100 rev.	150 rev.	200 rev.	p. min.		
5	1½	3	15	115	172	230	.....	£10	10
6	1¾	3	22	180	270	360	.....	12	12
7	1¾	4	30	240	360	480	.....	14	14
8	2¼	4	40	345	517	690	.....	17	0
9	2½	5	55	475	712	950	.....	19	10
10	2½	5½	75	585	877	1170	.....	22	10
11	2½	6½	90	720	1080	1440	.....	25	10
12	2¾	6½	110	870	1305	1740	.....	28	10
14	3	8	120	1030	1545	2060	.....	31	10
*14	3	8	230	2450	3675	—	.....	40	0
*16	3¼	8	460	4900	7350	—	.....	55	0

* The two last pumps are made double-acting.
 Steam Regulator Valves, and also Check Valves, specially made to suit these Engines, can be supplied.
 Terms: Nett Cash on Delivery.

A CIRCULAR, WITH FULL EXPLANATION AND COMPARISONS, WILL BE SENT ON
 APPLICATION.

BROWN, WILSON, AND CO.,
 No. 80, CANNON STREET, E.C.; AND VAUXHALL IRONWORKS, LONDON, S.

PARIS EXHIBITION, 1867.—AWARDED THE ONLY FIRST-CLASS MEDAL FOR CRUCIBLES.
 SILVER MEDALS, CLASSES 40—47.
THE PATENT PLUMBAGO CRUCIBLE COMPANY.
 SOLE MANUFACTURERS UNDER MORGAN'S PATENT,
 BATTERSEA WORKS, LONDON, S.W.

These Crucibles (MORGAN'S PATENT) were the only ones to which Prize Medals were awarded in London, 1862; Dublin, 1865; New
 Zealand, 1865; and Oporto, 1865.

They have been in use for many years in the English, Colonial, French, and other Foreign Mints; the English, French, and other Arsenals; and have been
 adopted by most of the large Engineers, Founders, and Refiners at Home and Abroad.

The capabilities which have now for more than twelve years distinguished these Crucibles are the following:—
 Their quality is uniform. They withstand the greatest heat without danger. Their average durability for Gold, Silver, Copper, and other ordinary metals
 is forty to fifty pourings, in some cases reaching one hundred. They never crack, and heat more rapidly than any other kind. One annealing only is required.
 Change of temperature has no effect. They can when hot from the furnace be dipped in cold water with safety. The saving of labour and metal is very great.
 In Steel Melting the saving of fuel has been demonstrated to amount to a ton and a half to every ton of steel used. For Zinc they last longer than iron pots,
 and save the great loss which arises from mixture with iron. Those for Malleable Cast-iron show an average working of seven days, doing each day nearly double
 the work of any other crucible.
 As these crucibles last much longer than any others, it follows that the saving of metal must be great, because to each worn crucible a quantity of metal ad-
 heres. In fact, comparing these with other crucibles, the saving of metal and fuel is more than equivalent to their cost.



A are made in sizes varying from 2 ozs. to any required capacity, and are marked by the quantity of kilograms they will contain; thus No. 100 will contain
 100 kilograms.
 B differ in shape, but correspond in all other respects with A, and are similarly marked.
 C are marked in English pounds—thus, a crucible marked 60 will contain 60 lbs.
 D are made expressly for steel in various sizes.

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Some unprincipled manufacturers having made
 such close imitations of our Trade Mark as cannot
 fail to deceive the public, we have deemed it ad-
 visable to alter our Mark as here shown. It will



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 OMISSION of the words—"DEPOTS AT PARIS
 AND ROTTERDAM," and the ADDITION of the
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NOTES ON THE MINES OF THE RIO TINTO DISTRICT:
 Containing a DETAILED REPORT upon the MINES and on the MEANS
 of RENDERING THEM MORE PROFITABLE, as well as an ACCOUNT of the
 PROCESS of TREATING POOR ORES of COPPER, successfully used there.
 By JOSEPH LEE THOMAS, Assoc. I.C.E.
 London: MINING JOURNAL Office, 28, Fleet-street, E.C.

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THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Total divs.	Per share.	Last paid.
500	Alderley Edge, c, Cheshire	10 0 0	—	—	8 12 8	0 5 0	Jan. 1867
200	Bovallack, t, c, St. Just	91 5 0	180	—	488 15 0	5 0 0	May 1866
4000	Brookwood, t	1 11 0	—	—	0 5 0	0 2 6	Sept. 1866
1000	Bronfloyd, t, Cardigan	12 0 0	—	—	8 7 0	0 8 0	Aug. 1866
6400	Cashwell, t, Cumberland	2 10 0	—	—	0 1 6	0 1 6	Aug. 1866
916	Cargill, s, t, N. Wales	15 5 7	12	—	13 15 0	1 0 0	Feb. 1866
1867	Cwm Eirin, t, Cardiganshire	7 10 0	—	—	379 10 0	3 0 0	April 1867
128	Cwmystwith, t, Cardiganshire	60 0 0	—	—	174 10 0	3 0 0	June 1867
280	Derwent Mines, s, t, Durham	300 0 0	—	—	1060 0 0	6 0 0	May 1867
1024	Devon Gt. Consols, c, Tavistock	1 0 0	425	—	14 11 6	2 0 0	July 1867
358	Dolcoath, c, t, Camborne	128 17 6	—	—	407 10 0	5 0 0	July 1867
6144	East Caradon, c, St. Cleer	2 14 6	6 1/4	5 1/2	0 10 6	0 10 6	June 1867
300	East Darren, t, Cardiganshire	32 0 0	—	—	2 15 0	9 1/2	—
128	East Pool, t, c, Pool, Illogan	24 2 0	—	—	2 15 0	9 1/2	—
5000	East Rosewarne, c, t, Gwinnar	2 10 0	—	—	70 10 0	—	—
1906	East Wheel Lovell, t, Wendron	3 9 0	8	6 1/2	70 10 0	—	—
2800	Fordale, t, Isle of Man	25 0 0	—	—	3 5 6	0 5 0	Feb. 1866
5000	Frank Mills, t, Christow	3 18 6	—	—	6 15 0	0 10 0	June 1867
5000	Great Lacey, t, Isle of Man	4 0 0	20	16 18	11 13 0	0 7 6	June 1867
5000	Great Wheel Vor, t, c, Helston	40 0 0	19	16 1/2	42 0 0	1 0 0	June 1867
1024	Herodsfoot, t, near Liskeard	8 10 0	37	33 35	0 10 0	0 10 0	June 1867
6000	Hingston Down, c, t	5 10 6	—	—	489 10 0	3 0 0	Mar. 1867
400	Lisburne, t, Cardiganshire	18 15 0	—	—	0 13 0	0 3 0	Mar. 1866
9000	Marke Valley, c, Cardigan	1 0 0	5	4 1/2	0 10 0	0 3 0	July 1867
2000	Minera Boundary, t, Wrexham	1 0 0	—	—	412 13 0	4 0 0	May 1867
1800	Minera Mining Co. t, Wrexham	25 0 0	—	—	—	—	—
20000	Minera Mining Co. t, Wrexham	7 0 0	16	—	—	—	—
40000	Myndy Iron Ore	3 5 0	—	—	0 6 6	0 2 6	Mar. 1866
200	Parys Mines, c, Anglesey	50 0 0	—	—	157 10 0	5 0 0	Jan. 1866
6000	Prosper United, t, c, St. Hilary	8 14 0	2 1/2	—	0 5 0	0 5 0	Feb. 1867
1120	Providence, t, Uny Lelant	10 6 7	30	28 30	82 17 6	0 10 0	May 1867
512	South Caradon, c, St. Cleer	1 5 0	—	—	556 10 0	6 0 0	May 1867
9000	South Darren, t	3 6 6	—	—	0 10 0	0 2 6	June 1867
508	Summer Hill, Mold	3 13 6	—	—	0 10 0	0 2 6	June 1867
6000	Tincroft, c, t, Pool, Illogan	9 0 0	14	13 1/2	18 11 0	0 5 0	Jan. 1867
2000	Trumpet Cons., t, Helston	11 10 0	—	—	11 5 0	0 5 0	June 1867
3800	W. Chiverton, t, Perranzabuloe	10 0 0	68	66 68	19 7 6	2 0 0	May 1867
400	West Wheel Seton, c, Camborne	47 10 0	155	—	473 0 0	3 0 0	June 1867
812	Wheel Basset, c, Illogan	5 2 6	70	65 70	623 0 0	1 0 0	June 1867
1024	Wheel Friendship, c, Tavistock	20 0 0	—	—	300 10 0	0 10 0	Nov. 1866
4256	Wheel Killy, t, St. Agnes	4 6 0	—	—	3 0 0	0 2 0	Feb. 1867
1024	Wheel Mary Ann, t, Menheniot	8 0 0	15	—	61 15 0	0 15 0	Jan. 1866
9000	Wheel Rose, c, Scorrier	—	—	—	1 0 0	0 10 0	Feb. 1867
396	Wheel Seton, t, c, Camborne	58 10 0	120	110 115	244 5 0	2 10 0	June 1867
1040	Wheel Trelawny, s, t, Liskeard	5 17 0	9 1/2	8 9	54 14 6	0 4 0	June 1867
3000	Whitwell Lead, Clitheroe	0 5 0	—	—	0 10 0	0 10 0	June 1867
17000	Wicklow, c, t, Wicklow	2 10 0	21 1/2	—	46 15 0	1 0 0	April 1867

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Total divs.	Per share.	Last paid.
15000	Cape Copper Mining	7 0 0	8	7 8	2 12 6	0 10 0	April 1866
100000	Don Pedro No. del Rey, Brazil	0 14 0	4 1/4	2 1/2	0 4 3	0 1 6	June 1867
25000	Fortuna, t, Spain	2 0 0	—	—	1 5 4	0 2 0	Oct. 1867
70000	English and Australian	2 10 0	—	—	1 13 0	0 1 0	Feb. 1867
20000	Gen. Mining Assoc., Nova Scotia	20 0 0	—	—	23 10 0	0 15 0	June 1867
10000	Gonnesa, t, [5000 £5 pd., 5000 £4 pd.]	—	—	—	7 1/2	per cent.	per annum.
15000	Linares, t, Spain	3 0 0	—	—	11 6 4	0 5 0	Jan. 1865
50000	Panfillo, c, t	3 0 0	—	—	10	per cent.	Yearly.
4000	Peel River Land and Mineral	—	—	—	—	—	—
30000	Pestarene, g, t	2 10 0	3 1/2	2 1/2	0 2 6	0 2 6	Mar. 1867
10000	Pontgibet, s, t, France	20 0 0	—	—	4 14 3	30 11 0	June 1867
100000	Port Phillip, c, Clunest	1 0 0	1	1 1/2	0 16 6	0 1 0	Jan. 1867
120000	Scottish Australian Mining Co. t	1 0 0	1 1/2	—	7 1/2	per cent.	Mar. 1867
30000	St. John del Rey, Brazil	15 0 0	66	57 59	77 5 0	4 10 0	June 1867
50000	Victoria (London) [25000 £1 pd., 25000 £2 pd.]	—	—	—	0 9 0	0 1 0	Jan. 1866
40000	West Canada Mining Company	1 0 0	—	—	0 19 6	0 2 6	May 1866

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Total divs.	Per share.	Last paid.
35000	Alamillos, t, Spain	2 0 0	—	—	—	—	—
100000	Anglo-Brazilian, g, t	0 10 0	—	—	1 1/4	3 1/4	—
12500	Anglo-Italian, g, t	0 5 0	—	—	—	—	—
20000	Australian, c, South Australia	7 7 6	—	—	—	—	—
40000	Britannia Silver-Lead Mines, France [15750 lbs. pd.]	—	—	—	—	—	—
2464	Burra, c, South Australia	5 0 0	—	—	—	—	—
25000	Capula, s, Mexico	1 12 0	—	—	—	—	—
30000	Chontales, g, t, Nicaragua	4 0 0	—	—	4 1/2	4 1/2	—
12000	Cobre Copper Company, Cuba	43 10 0	—	—	—	—	—
10000	Copapo Mining Company, Chile	16 10 0	—	—	—	—	—
10000	Copapo Smelting, Chile	10 0 0	—	—	—	—	—
300	Copper Mines Co. of South Australia [150 £100 pd.]	150 £70 pd.]	—	—	—	—	—
25000	East del Rey, g, Brazil	2 15 0	—	—	—	—	—
15000	El Chico Silver Mining and Reduction Company	5 0 0	—	—	—	—	—
8000	English and Canadian Mining Company	5 0 0	—	—	—	—	—
40000	Fortune Copper Mining Co. of Western Australia	2 0 0	—	—	—	—	—
50000	Frontino and Bolivia, g, New Granada	1 15 0	—	—	7 1/2	9 1/2	10 1/2
10000	Great Barrier Land, Mining, c, New Zealand	1 11 6	—	—	—	—	—
68000	Great Northern, c, South Australia	1 10 0	—	—	—	—	—
80000	Kapunda Mining Co., Australia	1 0 0	—	—	—	—	—
7927	Lusitania (Portugal)	3 0 0	—	—	—	—	—
83900	Mariquita, t	0 12 6	—	—	—	—	—
12800	Nerbudda Coal and Iron [6000 £5 pd., 6500 £4 pd.]	—	—	—	—	—	—
51000	New Quebrada, c, Venezuela	3 10 0	—	—	—	—	—
50000	Nova Scotia Land and Gold	1 15 0	—	—	—	—	—
15000	Orea, c, New Zealand	2 0 0	—	—	—	—	—
10178	Rhenish Consolidated, t, [5000 £5 pd., 4178 £2 10 pd.]	—	—	—	—	—	—
100000	Rosa Grande, g, Brazil	0 10 0	—	—	—	—	—
15000	San Pedro del Monte, s, Mexico	4 0 0	—	—	—	—	—
10000	San Roque, t, Spain	5 0 0	—	—	—	—	—
43174	United Mexican, s, Mexico	28 5 0	2	1 1/2	2 1/2	—	—
10000	Vancouver, c, t	6 0 0	—	—	—	—	—
4000	Val Salsana, s, c, t	7 0 0	—	—	—	—	—
45000	Victor Emanuel, c, Italy	1 0 0	—	—	—	—	—
20000	Washoe, g, t	5 0 0	—	—	—	—	—
80000	Worthing, c, South Australia	1 0 0	—	—	—	—	—
75000	York Peninsula, South Australia	1 0 0	—	—	—	—	—
45000	Yudnamutana, c, S. A.	3 0 0	—	—	1 1/2	3 1/4	—

BANKS AND FINANCIAL COMPANIES.

Shares.	Banks.	Paid.	Last Pr.	Bus. done.	Total divs.	Per share.	Last paid.
40000	Alliance	25 0 0	16 1/4	13 13 1/2	—	—	—
40000	Australian Mort. Land and Finance	5 0 0	—	—	—	—	—
30000	Australasian	40 0 0	64	63	—	—	—
10000	Bank of Egypt	25 0 0	—	—	—	—	—
50000	Bank of New Zealand	10 0 0	19	18 18 1/2	—	—	—
25000	Bank of Victoria	10 0 0	—	—	—	—	—
20000	Bank of Western Australia	10 0 0	—	—	—	—	—
20000	British North American	50 0 0	—	—	—	—	—
8915	Canada Company	32 10 0	71	65 68	—	—	—
50 000	Canadian Loan and Investment	2 10 0	—	—	—	—	—
40000	Chartered Bank India, Australia, and China	20 0 0	18 1/2	19	—	—	—
30000	Chartered Merc. of India, London and China	25 0 0	32	25 27	—	—	—
50000	City	10 0 0	13 1/2	14 15	—	—	—
20000	Colonial	25 0 0	—	—	—	—	—
40000	Company of African Merchants	3 0 0	3 1/2	3 3 1/2	—	—	—
150000	Consolidated Bank	4 0 0	—	—	—	—	—
50000	ditto	4 0 0	—	—	—	—	—
200000	Credit Foncier and Mobilier of England	5 0 0	—	—	—	—	—
20000	East London	5 0 0	—	—	—	—	—
30000	English, Scottish, & Aust., Chart.	20 0 0	—	—	—	—	—
20000	English and Swedish	25 0 0	—	—	—	—	—
20000	Imperial Bank	20 0 0	23	18 1/2	19	—	—
202500	Imperial Ottoman	10 0 0	—	—	—	—	—
300000	International Land Credit	6 0 0	—	—	1 1/2	2 1/2	—
50000	London Chartered Bank of Australia	20 0 0	24	23	—	—	—
37500	London and County	20 0 0	57	55	—	—	—
40000	London and Victoria Association	20 0 0	9	7	—	—	—
72000	London Joint Stock	40 0 0	61	42 44	—	—	—
50000	London and River Plate	10 0 0	13	11 1/2	—	—	—
20000	ditto	10 0 0	—	—	—	—	—
10000	London and South-Western	20 0 0	—	—	—	—	—
50000	London and Venezuela	12 10 0	—	—	—	—	—
50000	London and Westminster	20 0 0	96	102 104	—	—	—
10000	Mercantile and Exchange	12 10 0	—	—	—	—	—
10000	Merchant	25 0 0	—	—	—	—	—
5000	ditto	25 0 0	—	—	—	—	—
17156	Metropolitan and Provincial	20 0 0	—	—	—	—	—
4000	Midland	20 0 0	—	—	—	—	—
20000	National of Australia	4 0 0	—	—	—	—	—
20000	National of Liverpool	15 0 0	—	—	—	—	—
10000	National Provincial of England	42 0 0	—	—	—	—	—
55000	ditto	12 0 0	—	—	—	—	—
40000	National	30 0 0	—	—	—	—	—
50000	New South Wales	30 0 0	45	44 1/2	45	—	—
60000	Oriental Bank Corporation	25 0 0	—	—	41 43	—	—
27210	Provincial Banking Corporation	10 0 0	—	—	—	—	—
10000	Provincial of Ireland	25 0 0	—	—	85 87	—	—
10000	ditto	10 0 0	—	—	—	—	—
40000	Union of Australia	25 0 0	48	47 49	—	—	—
10000	Union of Ireland	22 0 0	—	—	—	—	—
50000	Union of London	15 0 0	41	38 39	—	—	—

PROGRESSIVE MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Total divs.	Per share.	Last paid.	
4000	Ballaclough, t, of Man, t, c	2 10 0	—	—	—	—	..May 1867	
3000	Bedford Unit, c, Tavistk.*	2 6 8.	1	..	..	..	..May 1867
1031	Bedol Aur, t, Holywell	1 12 0	..	..	..	..	..May 1867
500	Hillins, t, Flint	30 0	0	..	..	..	..Fully pd.
1248	Boscawell, t, c, St. Just	7 6 0	..	..	..	..	..Dec. 1866
2500	Bosworthen and Penzance	1 4 0	..	..	..	..	..July 1867
5000	Bottle Hill, t, Plympton	1 14 0	..	..	..	..	..June, 1866
300	Brynfro, Hall, t, Flint	28 0	0	..	..	..	..Jan. 1866
5000	Bryn Gwilog, t, Flint	0 18 0	..	..	..	..	..June, 1864
1200	Bryn Gwyll, t, Mold*	9 0 0	..	..	..	..	..
1000	Budnick Consols, c, t	..	..	..	..	..	..
30000	Caldbeck Fells, t, Cumber.*	1 10 0	..	..	..	..	..Dec. 1866
1000	Camborne Consols, c	18 10	0	..	..	..	..Feb. 1864
4600	Camborne Vn.&Wh.Frn., c	11 12	1	..	..	..	..Mar. 1867
11000	Cap Cornwall, t, c [8000 22 10s. pd., 3000 10s. pd.]	..	..	..	..	..	..Oct. 1867
514	Caradon Cons., c, St. Cleer	32 6	0	..	..	..	..Feb. 1867
500	Carn Brea, c, St. Cleer	28 0	0	..	..	..	..Feb. 1867
6000	Carn Camarne, c, Camba.	2 2 0	..	1 1/2	..	..	..July 1867
5000	Carnarvonshire, t*	4 0	0	..	..	..	..Fully pd.
4005	Cardigan Cons.*	5 0	0	..	..	..	..Fully pd.
600	Cardiganhire, t*	17 10	0	..	..	..	..Sept. 1866
20000	Carysfort [3200 22 1/2 pd., 16800 21 1/2 pd.]	..	..	3/4	..	..	..Mar. 1865
2500	Cefn Cilcen, t, Flint*	2 18	0	..	..	..	..Aug. 1866
3500	Central Minera, t*	3 12	6	..	..	..	..Nov. 1866
13000	Central Snailbeck, t*	..	..	..	..	..	..Fully pd.
3000	Chiverton, t, t, Perran	9 7 6.	7 1/2	7 7 1/2	..	..	..May 1867
3000	Chiverton Moor, t, Perran	6 6 0.	5 1/2	5 1/2	5 1/2	..	..May 1867
4000	Clara, t, Llywernog	2 16	6	..	..	..	..May 1867
2880	Clifford Amalg., c, Gwen-t.	33 17 6.	8	..	7 1/2	7 1/2	..June 1867	
256	Condurow, c, t, Camborne	76 10	0	..	..	..	..
50000	Connorree, c, Wilklow*	1 0	0	..	..	..	..Fully pd.
2450	Cook's Kitchen, c, Aillogant	19 14	0	..	..	..	..July, 1866
1204	Copper Hill, c, Redruth*	12 10	0	..	..	..	..June, 1866
6885	Cornish Clay and Flint	..	..	..	..	..	..Fully pd.
1656	Craddock Cons., c, St. Cleer	12 6	0	..	..	..	..May 1867
861	Cranke, c, Camborne	33 9	6	..	..	..	..Dec. 1866
12000	Creake, c, Tavistock	3 12	0	..	3 1	..	..June 1867
6000	Cuddra, t, St. Austell	5 0	0	..	..	..	..Oct. 1866
35000	Dale, t, North Stafford	1 0	0	..	..	..	..Fully pd.
4000	Devon Wheat Frances, c	1 5	0	..	..	..	..Mar. 1867
1024	Dev. Wh. Lopes, Bickleigh	18 10	0	..	..	..	..Mar. 1867
12800	Drake Walls, t, Calstock	2 5	0	..	98. 11s.	..	..Dec. 1866
256	Ding Dong, t, Gulval	48 0	0	..	..	..	..
3000	Dundak, t, Wales	0 15	0	..	..	..	..Feb. 1867
3000	Dunfryn, t, Wales	13 7	0	..	..	..	..June, 1866
740	Easlebrook, t*	19 15	0	..	..	..	..July, 1866
512	East Basset, c, Redruth	29 10 0.	20	..	18 20	..	..
1000	East Basset and Grylls, t	3 5	0	..	..	..	..July, 1865
6000	E. Bottle Hill, t, Plympton	9 9	6	..	..	..	..May 1867
4096	East Brookwood, Holne	2 8	8	..	..	..	..July, 1866
6000	E. Carn Brea, c, Redruth	2 11 9.	..	2 2 1/2	..	..	..Mar. 1867
4000	East Chiverton, t, Perranz.	3 15 9.	1 1/2	1 1/2	1 1/2	..	..Feb. 1867
6000	E. Grenville, c, St. Cleer	3 6	0	..	2 1/2	..	..June 1867
4000	E. Gunnadale, c, St. Bed. c	9 7	6	..	..	..	..
6000	East Laxey, t, Isle of Man.	2 15	0	..	..	..	..Dec. 1866
6000	East Neptune, c, Marazion	..	..	..	..	..	..
3886	E. Providence, t, Uuy Lel.	5 1 9.	..	..	..	..	..Feb. 1867
6000	East Snaefell, t, t, of Man*	2 0	0	..	..	..	..Dec. 1866
5610	East Seton, c, Camborne	0 13	6	..	..	..	..May 1867
9000	E. St. Just, t* [6000 23 10s. pd., 3000 11 10s. pd.]	..	..	..	..	..	..April, 1866
256	East Tolgus, c, Redruth	96	..	..	..	..	..Jan. 1865
1190	E. Wh. Agar, c, St. Cleer	12 17	0	..	..	..	..
500	Wh. B. Cons., c, Perr.	2 0	0	..	..	..	..
4000	E. Wh. Russell, Tavistock	12 1 6.	2	..	1 1/2	1 1/2	..April 1867	
6000	Fortescue Consols, c	0 12	6	..	..	..	..
940	Forwyn Con., c, Tywardreath	5 4	6	..	..	..	..Feb. 1867
6000	Furze Hill Wood Con. Bucki.	1 16	0	..	..	..	..Feb. 1866
10000	Furston, c* [5000 11 10s.]	..	..	..	..	..	..Mar. 1865
4096	Garladina Unit, t, Wendron	5 7	6	..	..	..	..Feb. 1866
4000	Gawton, c, Tavistock	3 1 7.	..	..	..	..	..May 1867
6000	Gen. Min. Co. of Cornwall	10 10	0	..	..	..	..
40000	Glasgow Consols, t* [30000 11 pd., 10000 10. pd.]	..	..	..	..	..	..Sept. 1866
5700	Goginar, t, t	12 10	0	..	..	..	..April 1866
6144	Gonamena, c, St. Cleer	6 1	0	..	..	..	..June 1867
486	Gothic, t, t, Cardigan*	2 10	0	..	5	4 1/2	5	..Fully pd.
486	Grambler and St. Aubyn	71 0	0	..	..	..	..Mar. 1867
10000	Great Cwmymlog, s-t*	1 0	0	..	..	..	..May, 1867
4096	Great Caradon, c, St. Ive.	3 13	0	..	..	..	..Feb. 1867
3000	Great Chiverton, s-t*	1 0	0	..	..	..	..Mar. 1867
5000	Gt. East Lovell, t, Helston	1 0	0	..	..	..	..Nov. 1866
5000	Great Morla, t, Isle of Man*	4 0	0	..	..	..	..June, 1867
5000	Gt. North Downs, c	6 13	0	..	3 1/2	3 1/2	..Feb. 1867	
12500	Gt. No. Laxey [Isle of Man]	0 12	6	..	..	..	..Jan. 1867
14800	Great Retaileck, s-t, b	2 2	0	..	5 1/2	4 1/2	5	..April 1867
6000	Great South Chiverton, s-t	1 5	0	..	..	..	..May 1867
6000	Gt. So. Tolgus, c, Redruth	1 4	0	..	..	..	..June 1867
3313	Great Wheel Badden, t	7 17	6	..	..	..	..June, 1865
1798	Gt. Wh. Fortune, t, Breage	27 14	6	..	..	..	..Mar. 1867
10240	Great Work, t, Germoe	108	..	..	..	..	..
6000	Green Pastures, t	4 19	0	..	..	..	..April 1867
6068	Gunn Park, t, Llanrhyt.	13 13	6	..	..	..	..June 1867
6000	Hallenbeagle, c, Kenwyn	2 17	0	..	..	..	..Sept. 1864
6000	Harwood, t, Durham*	0 6	0	..	..	..	..Mar. 1866
5000	Havan, t, Cardigan*	4 15	0	..	..	..	..Mar. 1866
6000	Lady Bertha, c, Tavistock	4 4	0	..	..	..	..May 1867
1019	Leeds and St. Aubyn, t, c	19 13	4	..	..	..	..Mar. 1866
160	Levant, c, t, St. Just	10 8	1	..	..	..	..June, 1866
3000	Lovell Consols, t	..	..	..	..	..	..
3000	Maes-y-Safn, t*	30 0	0	..	..	..	..Jan. 1866
6000	Maudlin, c, c	4 7	0	..	..	..	..May, 1865
640	Mount Pleasant, t, Mold	4 0	0	..	..	..	..
1024	Nangles, t, c, Kea	27 8	0	..	15	12 15	..Feb. 1867	
12800	Nether Hears* [6400 11 pd., 6400 28. pd.]	..	..	..	..	..	..
6000	New Birch Tor* & Vitter, t	13 13	6	..	..	..	..Oct. 1866
6000	New Clifford, c, Gwennap*	2 10	0	..	..	..	..May 1867
2400	New Cornish [12000 11 pd., 12000 15s. pd.]	..	..	..	..	..	..Sept. 1866
6514	N. Crow Hill, t, St. Stephen	3 3	0	..	..	..	..July 1867
6000	Nev E. Russell, c, Tavistk	14 11	0	..	..	..	..April, 1867
400	New Hendra, t, c, Breage	1 4	6	..	..	..	..July 1867
5700	New Penberthy, t, t	4 8	0	..	..	..	..May, 1866
960	New Treleigh, c, Redruth	8 14	0	..	..	..	..May, 1866
3729	New Trevenen, t, Wendron	8 14	0	..	..	..	..May, 1867
4000	New Wheel Lovell, t	1 15	0	..	..	..	..May 1867
4000	New Wh. Seton, c, Camba.	26 5	0	..	..	..	..April 1867
16000	New Wheel Towan, c, t	1 10	0	..	..	..	..July, 1866
3457	No. Dolcoath, c, Camborne	0 16	0	..	..	..	..July, 1866
1361	No. Grammer, c, Redruth	4 16	4	..	..	..	..Mar. 1867
18000	N. Hallenbeagle [8000 11 pd., 8000 8s. 6d. pd.]	..	..	..	..	..	..Dec. 1866
2000	North Jane, t, s-t, Kenwyn	3 10	0	..	..	..	..Mar. 1867
2000	North Levant, t, c, St. Just	10 12	0	..	..	..	..April, 1867
20000	Nth. Minera, t, Wrexham	1 0	0	..	..	..	..Fully pd.
6000	N. Phoenix, c, Linkinhorne	4 2	6	..	..	..	..May, 1867
1024	North Pool, c, Illogan	5 16	0	..	..	..	..Mar. 1867
6000	North Retaileck Mine	2 14	0	..	5	..	..Feb. 1867
9336	No. Roskear, c, Camborne	6 10	0	..	..	..	..May, 1867
1593	No. St. Agnes, c, St. Agnes	1 9	0	..	1 1/2	3 1/2	..	
5610	North Wheel Basset, c, st.	5 0	0	..	..	..	..April, 1866
6000	North Wheel Crofty, c, t	3 11	3	..	3 1/2	3 1/2	..July 1866	
3000	North Wh. Chiverton, t	4 0	0	..	..	..	..Mar. 1867
6144	N. Wh. Robert, Smp. Spiney	4 8	11	..	..	..	..Mar. 1867
12800	Okel Tor, c, Calstock	2 4	0	..	..	..	..Aug. 1866
8000	Okehampton	..	..	..	..	..	..
4000	Old West Hill, c, St. Agnes	2 15	0	..	..	..	..Mar. 1867
6000	Old Gunnislake, c, Calstock	2 0	0	..	2 1/2	2 1/2	..June 1867	
6400	Old West Hill, c, St. Agnes	2 12	0	..	..	..	..July 1867
8463	Pedn-an-drea, t, Redruth	6 2	6	..	..	..	..May 1867
6000	Penden Consols, c, St. Just	6 3	0	..	..	..	..May 1867
3340	Penhale Wheel Vor, t, c	3 12	6	..	..	..	..July 1867
6000	Penhalls, t, St. Agnes	3 0	0	..	..	..	..May, 1866
1772	Polberro, t, St. Agnes	15	0	..	..	..	..Fully pd.
512	Polbreten, t, St. Agnes	8 0	0	..	..	..	..Aug. 1860
12000	Prince Arthur Consols, t	8 0	0	..	..	..	..Fully pd.
2800	Prince Arthur Consols, t	0 13	6	..	3 1/2	5 1/2	..Feb. 1867	
19200	Redmoor, c, t, Callington	1 11	6	..	..	..	..Feb. 1867
6000	Reinnee Laxey, t, t, of Man*	4 0	0	..	..	..	..Feb. 1867
1024	Rose and Chiverton Un., t	5 0	0	..	6	5 1/2	6	..Nov. 1866
3970	Rosecliff and Tolcarne, t*	9 0	0	..	..	..	..April 1867
3915	Rosewarne Consols, c	5 2	6	..	..	..	..Feb. 1866
3848	Rosewall Hill & Ransom, c	3 0	0	..	..	..	..Aug. 1866
20500	Rosewarne United, c, t	4 3	0	..	..	..	..Feb. 1867
4096	Snaefell, t, Isle of Man	..	..	..	..	..	..Fully pd.
4096	Silver Brook, c, Carmar.	10 0	0	..	..	..	..July, 1866
12000	Sithney Wheel Metal, t	4 5	6	..	..	..	..Oct. 1866
5000	Sorridge Cons., c, Tavist.	1 14	6	..	..	..	..Oct. 1866
1024	South Basset, c, Gwennap	25 10	0	..	..	..	..June 1867
1024	South Callington, s-t	5 17	6	..	2 1/2	2 1/2	..Jan. 1867	
6000	So. Chiverton, s, t, Perran	5 15	0	..	..	..	..June, 1866
6128	So. Condurow, c, c, Camb.	37 15	6	..	3/4	11s. 13s.	..May 1867	
1000	South Crenver, c, Crowan	12 9	0	..	..	..	..Oct. 1867
6000	S. Dolcoath & Carnarvon Cons.	2 16	0	..	..	..	..Aug. 1866
5000	So. Eymouth, t, Christow	2 17	0	..	..	..	..Feb. 1866